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FOREST FINANCING
LATIN AMERICA AND THE CARIBBEAN REGION

PRODUCT 3: FINAL REPORT

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LIST OF ACRONYMS

A/R	Afforestation and Reforestation
AAUs	Assigned Amount Units
ABC Program	Low Carbon Agriculture Program (*Agricultura de Baixo Carbono)*
ABRAF	Brazilian Association ofPlanted Forest Producers (*Associação Brasileira de Produtores de Florestas Plantadas)*
ABT	Forests and Lands Authority of Bolivia (*Autoridad de Bosques y Tierras de Bolivia*)
ACT	Australia Department of Treasury
ACTO	Amazon Cooperation Treaty Organization
ADB	Asian Development Bank
AF	Adaptation Fund
AFB	Adaptation Fund Board
AfDB	African Development Bank
AFD	Financial Development Agency of Paraguay
AFI	Aboriginal Forestry Initiative
AHEG	*Ad Hoc* Expert Group
AIFBN	Organization of Forestry Engineers for Native Forest (*Agrupación de Ingenieros Forestales por el Bosque Nativo)*
ANA	Brazilian National Water Agency (*Agência Nacional de Águas)*
ANAM	National Environmental Authority of Panama *(Autoridad Nacional del Ambiente de Panama)*
ANIF	Financial Institutes Nacional Association of Colombia *(Asociacion Nacional de Instituciones Financieras de Colombia)*
AR	Argentina
ARPA	Amazon Region Protected Areas
BA	State of Bahia, Brazil (*Estado da Bahia*)
BANDESAL	Bank of Development of El Salvador (*Banco de Desarrollo de El Salvador)*
BASA	Bank of the Amazon (*Banco da Amazônia)*
BB	Bank of Brazil *(Banco do Brasil*)
BCIE	Central American Bank for Economic Integration (*Banco Centroamericano de Integración Económica)*
BE	Special Voluntary Trust Fund for Additional Voluntary Contributions in Support of Approved Activities
BioCF	BioCarbon Fund
BM&F	Merchandise and Future Stock Exchange (*Bolsa de Mercadorias & Futuros)*
BMELV	German Federal Ministry of Food, Agriculture and Consumer Protection (*Bundesministeriums für Ernahrung, Landwirtschaft und Verbraucherschutz*)
BMU	German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (*Bundesministeriums für Umwelt, Naturschutz und Reaktorsicherheit*)
BMZ	German Federal Ministry for Economic Cooperation and Development *(Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung)*

BNB	Bankof Northeast of Brazil *(Banco do Nordeste do Brasil*)
BNDES	Brazilian Development Bank *(Banco Nacional do Desenvolvimento)*
BOVESPA	São Paulo Stock Exchange *(Bolsa de Valores de São Paulo*)
BRIC	Brazil, Russia, India and China
BSC	Bahia Specialty Cellulose S/A
BVS&A	Social and Environmental Stock Exchange (*Bolsa de Valores Socioambientais*)
BZ	Special Voluntary Trust Fund for Participation of Parties in the Convention Process
CABEI	Central American Bank for Economic Integration
CABSA	Capture of Carbon, Biodiversity and Agroforestry Systems
CADF	Carbon Asset Development Fund
CAF	Andean DevelopmentCorporation (*Corporación Andina de Fomento*)
CalPERS	California Public Employees' Retirement System
CAMBio	Central American Markets for Biodiversity Project
CAPFOR	Capacity Building in Forest Management (*Construyendo Capacidades en Manejo Forestal*)
CATIE	Tropical Agricultural Research and Higher Education Center (*Centro Agronómico Tropical de Investigación y Enseñanza)*
CBD	Convention on Biological Diversity
CDCF	Community Development Carbon Fund
CDE	Centre for Development and Environment
CDM	Clean Development Mechanism
CEPLAC	Executive Committeeof Cocoa Farming Plan (*Comissão Executiva do Plano da Lavoura Cacaueira*)
CERs	Certified Emission Reductions
CF	Carbon Fund
CFE	Carbon Fund for Europe
CFMA	Atlantic Forest Fiocruz Campus(*Campus Fiocruzda Mata Atlântica*)
CFS	Canadian Forest Service
CI	Conservation International
CIF	Climate Investment Funds
CIF	Forestry Incentive Certificate
CIFOR	Centre for International Forestry Research
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMPC	Paper and Carboard Manufaturing Company (*Companhia Manufatureira de Papéis e Cartões*)
CNFCM	Center for Natural Forest Conservation and Management
CNIC	Chilean National Council of Innovation for Competitiveness
CNPq	National Council for Scientific and Technological Development (*Conselho Nacional de Desenvolvimento Científico e Tecnológico*)
CODEVASF	Development Company of the São Francisco and Parnaiba Valleys (*Companhia de Desenvolvimento dos Vales do São Francisco e do Parnaíba*)

CNRH	National Council on Water Resources (*Conselho Nacional de Recursos Hidricos*)
CONADI	Indigenous Development Corporation
CONAF	National Forest Corporation of Chile (*Corporación Nacional Forestal de Chile*)
CONAFOR	Mexico's National Forestry Commission *(Comisión Nacional Forestal de Mexico)*
CONAMA	National Commission for the Environment (*Conselho Nacional do Meio Ambiente*)
CONANP	National Council of Natural Protected Areas *(Comisión Nacional de Áreas Naturales Protegidas)*
CONAP	National Commission of Protected Areas of Guatemala (*Consejo Nacional de Áreas Protegidas*)
CONEVAL	National Council for Evaluation of Social Development Policy in Mexico *(Consejo Nacional de Evaluación de la Política de Desarrollo Social de Mexico)*
CONICYT	National Committee for Scientific and Technological Research
CONIF	National Corporation for Forestry Development
CONPES	National Commission of Economic and Social Politics (*Consejo Nacional de Política Económica y Social*)
CNR	National Committee of Risks
COP	Conference of the Parties
CORFAM	Corporationfor Forest Development andEnvironment ofManabi (*Corporación de Desarrollo Forestal y Ambiental de Manabí)*
CORFO	Production Development Corporation (*Corporación de Fomento de la Producción)*
CPF	Carbon Partnership Facility
CPF	Collaborative Partnership on Forests
CPL	Clean Production Council
CTF	Clean Technology Fund
DAS	Department for Social Action of the Diocese of Temuco
DCF	Danish Carbon Fund
DCI	Development Cooperation Instrument
DDI	Domestic Direct Investments
DED	German Development Service (*Deutscher Entwicklungsdienst*)
DFID	UK Department for International Development
DG	Directorate–General
DGPAIRS	General Directorate of Environmental Planning and Regional and Sectoral Integration
DI	Direct Investments
DIPRES	Budget Directorate of Chile (*Dirección de Presupuestos de Chile)*
DL	Decree-Law (*Decreto-Ley*)
DNP	National Department of Planning of Colombia (*Departamiento Nacional De Planeación De Colombia)*
DPL	Development Policy Loan
DRIPs	Dividend Reinvestment Plans
EBRD	European Bank for Reconstruction and Development
EC	European Commission

ECOSOC	Economic and Social Council of the United Nations
EIB	European Investment Bank
EMBRAPA	Brazilian Agricultural Research Corporation (*Empresa Brasileira de Pesquisa Agropecuária*)
ER	Emission Reduction
ERPA	Emissions Reductions Purchase Agreement
ERUs	Emission Reduction Units
ES	Environmental Services
ES	Espírito Santo State, Brazil (*Estado do Espírito Santo*)
ETFRN	European Tropical Forest Research Network
EU	European Union
EU ETS	European Union's Emissions Trading Scheme
EUROPEAID	European Commission Development and Cooperation
FAN	National Environmental Fund (*Fondo Ambiental* Nacional)
FAO	Food and Agriculture Organization of the United Nations
FAOSTAT	FAO Statistical Database
FAP	Protected Areas Fund (*Fundode Áreas Protegidas*)
FAS	Amazonas Sustainable Foundation (*Fundação Amazonas Sustentável*)
FAT	Workers Assistance Fund *(Fundo de Amparo ao Trabalhador)*
FBI	Florestal Brazil Investment
FC	The Forest Company
FCO	Constitutional Fund for the Financing of the West-Central ofBrazil (*Fundo Constitucional de Financiamento do Centro-Oeste*)
FCPF	Forest Carbon Partnership Facility
FDA	Amazon Development Fund *(Fundo de Desenvolvimento da Amazônia)*
FDI	Foreign Direct Investments
FDNE	Development Fund of the Northeast of Brazil (*Fundo de Desenvolvimento do Nordeste*)
FEMSA	Mexican Economic Development (*Fomento Económico Mexicano)*
FIA	Forest Inventory and Analysis
FINAGRO	Fund for Agricultural Financing
FINEP	Financing Agency forStudies and Projects (*Financiadora de Estudos e Projetos)*
FINNFOR	Forests and Forest Management Project in Central America
FINNIDA	Finnish International Development Agency
FIP	Forest Investment Program
FLEG	Forest Law Enforcement and Governance
FLEGT	Forest Law Enforcement Governance and Trade
FMAM	Global Environmental Fund (*Fondo para el Medio Ambiente Mundial*)
FNE	Constitutional Fund for the Financing of the Northeast of Brazil (*Fundo Constitucional de Financiamento do Nordeste*)
FNMA	National Environmental Fund (*Fundo Nacional do Meio Ambiente*)

FNO	Constitutional Funds for Financing the North of Brazil (*Fundo Constitucional de Financiamento do* Norte)
FONABOSQUE	National Fund for Forest Development of Bolivia
FONADEFO	National Forest DevelopmentFund (*Fondo Nacional de Desarrollo Forestal*)
FONAFIFO	NationalForestry FinancingFund (*Fondo Nacional de Financiamiento Forestal*)
FONDEF	Fund for the Promotion of Scientific and Technological Development of Chile
FPP	Forest People Programme
FS	Forest Service
FSO	Fund for Special Operations
FSP	Full-Sized Project
FUNCEF	Caixa Econômica Federal Workers' Pension Fund (*Fundo de Pensãoda* Caixa Econômica *Federal)*
FUNDESNAP	Foundation for the Development of the National System of Protected Areas
FUNTAC	Technology Foundation of the State of Acre (*Fundação de Tecnologia do Estado do Acre)*
G3	Three Rights Holders Group
GCF	Green Climate Fund
GCP	Global Canopy Program
GEF	Global Environment Facility
GFA	Global Forest Alliance
GFC	Guyana Forestry Commission
GFMC	Global Fire Monitoring Center
GFP	Global Forest Partners
GFP	Growing Forest Partnership
GHG	Greenhouse Gas
GIZ	German Academy for International Cooperation (*Deutsche Gesellschaft für Internationale Zusammenarbeit*)
GM	Global Mechanism
GMO	Grantham Mayo van Otterloo
GOFs	Global Objectives on Forests
GTF	Global Trust Fund
GTZ	German Agency for Technical Cooperation
HEF	Harvard Endowment Fund
HTRG	Hancock Timber Resource Group
IAP	Environment Institute of Paraná (*Instuto Ambiental do Paraná*)
IBA	International Bar Association
IBAMA	Brazilian Institute of Environment and Renewable Natural Resources (*Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis*)
IBG	IBERPAPELl Gestion SA
IBIO	BioAtlântica Institute (*Instituto BioAtlântica)*
IBRD	International Bank for Reconstruction and Development
ICA	Colombian Agricultural Institute

ICAA	Initiativefor Conservation intheAndean Amazon (*Iniciativa para la Conservación en la Amazonia Andina*)
ICCO	International Cocoa Organization
ICF	Italian Carbon Fund
ICMBio	Chico Mendes Institute for Biodiversity Conservation (*Instituto Chico Mendes de Biodiversidade*)
IDA	International Development Association
IDB	Inter-American Development Bank
IEF-MG	Minas Gerais State Institute of Forests (*Instituto Estadual de Florestas de Minas Gerais*)
IET	International Emissions Trading
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IFF	Intergovernmental Forum on Forests
IFIs	Intermediary Financial Institutions
IICA	Inter-American Institute of Agricultural Sciences (*Instituto Interamericano de Cooperación para la Agricultura*)
IIED	International Institute for Environment and Development
IISD	International Institute for Sustainable Development
IMF	International Monetary Fund
INAB	National Forest Institute of Guatemala (*Instituto Nacional de Bosques*)
INAFOR	Nicaraguan National Forestry Institute *(Instituto Nacional Forestal*)
INCRA	National Institute of Colonization and Agrarian Reform (*Instituto Nacional de Colonização e Reforma Agrária)*
INDAP	Agricultural Development Institute of Chile
INE	National Institute of Ecology of Mexico *(Instituto Nacional de Ecologia de Mexico)*
INFONA	National Forest Institute of Paraguay *(Instituto Forestal Nacional de Paraguay)*
INFOR	Forestry Institute of Chile *(Instituto Forestal*)
INIA	Agricultural Research Institute
INTA	National Agricultural Technology Institute (*Instituto Nacional de Tecnología Agropecuaria*)
IPCC	Intergovernmental Panel on Climate Change
IPÊ	Institute of Ecological Research (*Instituto de Pesquisas Ecológicas*)
IPEA	Instituteof Applied Economic Researchof Brazil (*Instituto de Pesquisas Econômicas Aplicadas do Brasil*)
IPF	Intergovernmental Panel on Forests
ISTO	Climate Change Adaptation Research Program
ITTO	International Tropical Timber Organization
IUCN	International Union for Conservation of Nature
IWC	International Woodland Company
JBIC	Japan Bank for International Cooperation
JI	Joint Implementation
JICA	Japan International Cooperation Agency

KFW	German Development Bank (*Kreditanstalt für Wiederaufbau*; KfW Bankengruppe)
LA	Latin America
LAC	Latin America and the Caribbean
LDCF	Least Developed Countries Fund
LDCs	Least Developed Countries Parties
LDFA	Land Degradation Focal Area
LTU	Luleå Technology University
LULUCF	Land Use, Land-Use Change and Forestry
MADR	Ministryof Agricultureand Rural Development (*Ministerio de Agricultura y Desarrollo Rural)*
MADS	Ministry of Environment and Sustainable Development in Colombia *(Ministerio de Ambiente y Desarrollo Sostenible de Colombia)*
MAG	Ministry of Agriculture and Livestock of El Salvador (*Ministerio de Agricultura y Ganadería)*
MAGAP	Ministry of Agriculture, Livestock, Acquaculture and Fisheries of Ecuador (*Ministerio de Agricultura, Ganadería, Acuacultura y* Pesca)
MAGyP	Ministry of Agriculture, Livestock and Fisheries of Argentina (*Ministerio de Agricultura, Ganadería y Pesca*)
MAP	Mesoamerican Agro-Environmental Programme
MARENA	Ministry of Environment and Natural Resources of Nicaragua *(Ministerio de Ambiente y Recursos Naturales de Nicaragua)*
MARN	Ministry of Environment and Natural Resources of Guatemala
MAPA	Ministry of Agriculture, Livestock and Supply (*Ministério da Agricultura, Pecuária e Abastecimento*)
MCTI	Brazilian Ministry of Science, Technology and Innovation (*Ministério da Ciência, Tecnologia e Inovação*)
MDB	Multilateral Development Banks
MDIC	Ministry of Development, Industry and Commerce of Brazil (*Ministério do Desenvolvimento, Indústria e Comércio Exterior do Brasil*)
MDL	Clean Development Mechanisms *(Mecanismo de Desenvolvimento Limpo*)
MDRyT	Ministry of Rural Development and Lands of Bolivia (*Ministerio del Desarrollo Rural y Tierras de Bolivia)*
MEA	Multilateral Environmental Agreements
MEDEC	Mexico Low Carbon Development Study (*Disminución de Emisiones de Carbono)*;
MEFT	Ministry of Economy, Development and Tourism of Chile
MERCOSUL	Common Market of the South Cone *(Mercado Comum do Cone Sul*)
METLA	Finnish Forestry Research Institute
METSO	Forest Biodiversity Programme for Southern Finland
MF	Ministry of Fina nces of Brazil *(Ministério da Fazenda)*
MFAF	Ministry of Foreign Affairs of Finland
MG	State of Minas Gerais, Brazil (*Estado de Minas Gerais*)
MGAP	Ministry of Livestock, Agriculture and Fisheries of Uruguay (*Ministerio de Ganadería, Agricultura y* Pesca)

MH	Ministry of Finances of Chile
MI	Ministry of National Integration of Brazil (*Ministério da Integração Nacional*)
MIE	Multilateral Implementing Entity
MINAET	Ministry of Environment, Energy and Telecommunications
MINAG	Ministry of Agriculture of Peru *(Ministerio de Agricultura de Peru)*
MINAGRI	Ministryof Agriculture of Chile (*Ministerio de Agriculltura de Chile*)
MINAMB	Ministry of Popular Power for Environment (*Ministerio del Poder Popular para el Ambiente*)
MINEDUC	Ministry of Education of Chile
MINREL	Ministry of Foreign Affairs of Chile (*Ministerio de Relaciones Exteriores de Chile*)
MMA	Ministry of Environment of Brazil (*Ministério do Meio Ambiente*)
MMAyA	Ministry of Environment and Water of Bolivia *(Ministerio de Medio Ambiente y Agua de Bolivia)*
MMAyRN	Ministry of Environment and Natural Resources od Dominican Republic (*Ministerio De Medio Ambiente Y Recursos Naturales De La Republica Dominicana*)
MMM	Ministry of Agriculture and Forestry of Finland
MODERAGRO	Modernization Programme for Agriculture and Natural Resources Conservation *(Programa de Modernização da Agricultura e Conservação de Recursos Naturais*)
MRECIC	Ministry of Foreign Affairs, International Trade and Worship (*Ministerio de Relaciones Exteriores y Culto)*
MTOP	NationalTransport Ministry of Uruguay (*Ministerio de Transporte y Obras Públicas)*
MYPOW	Multi-Year Programme of Work
NAMAs	Nationally Appropriate Mitigation Actions
NAPAs	National Adaptation Programmes of Action
NCDMF	Netherlands Clean Development Mechanism Facility
NFCP	Natural Forest Conservation Program
NFD	National Forestry Database of Canada
NFP	National Forest Program
NFS	National Forest System
NGOs	Non-Governmental Organizations
NIE	National Implementing Entity
NLBI	Non-Legally Binding Instrument on All Types of Forests
NORAD	Norwegian Agency for Development Cooperation
NREL	National Renewable Energy Laboratory
NWFPs	Non-Wood Forest Products
OAS	Organization of American States
OCP	Heavy Crude Oil Pipeline *(Oleoducto de Crudos Pesados)*
ODA	Official Development Assistance
ODS	Operating Differential Subsidy
OECD	Organization for Economic Cooperation and Development

OTPP	Ontario Teachers' Pension Plan
PACC	AdaptationProgrammeto Climate Change (*Programa de Adaptación al Cambio Climático)*
PAN	National ActionProgrammeto CombatDesertification
PAs	Protected Areas
PCF	Prototype Carbon Fund
PCNB	National Service of Agrarian Health *(Servicio Nacional de Sanidad Agraria*
PDD	Project Design Document
PDFLOR-PI	Piauí Forest Development Programme
PECC	Special Programme for Climate Change (*Programa Especial de Cambio* Climático)
PES	Payment for Environmental Services
PETROBRAS	Brazilian Petroleum Company (*Petróleo Brasileiro*)
PETROS	Petrobras Workers' Pension Fund (*Fundo de Pensão dos Funcionários da Petrobras*)
PFN	National Forest Programme of Guatemala (*Programa Forestal Nacional de Guatemala)*
PFN	National Forestry Program of Nicaragua
PINFOR	Forestry IncentivesProgramme (*Programa de Incentivos Forestales*)
PMR	Partnership for Market Readiness
PNFR	National Afforestation and Reforestation Plan (*Plan Nacional de Forestación y Reforestación*)
PNMA	National Environmental Program of Brazil (*Programa Nacional do Meio Ambiente*)
PPCR	Pilot Program for Climate Resilience
PPPs	Public-Private Partnerships
PR	State of Paraná, Brazil *(Estado do Paraná*)
PREVFOGO	Prevention and Combating Wildfires Programme
PROCAFOR	Regional Forest Programme for Central America
PROCEJA	Agro-environmental Program Ceja de Selva
PROCHILE	Chilean Exports Promotion Bureau
PROCOREF	Programme of Conservation and Restoration of Forest Ecosystems
PRODERENA	Environmental Policy Support Programme
PRODETUR	Tourism Development Programme of Northeast Brazil (*Programa de Desenvolvimento do Turismo no Nordeste)*
PROFAFOR	Face Program of Afforestation of Ecuador *(Programa Face de Forestación del Ecuador)*
PROFOR	Program on Forests of the World Bank
PROFORESTAL	Forestry Promotion and Development Program of Ecuador (*Programa de Promoción y Desarrollo Forestal de* Ecuador)
PROMEF	Program of Domestication and Improvement of Native and Introduced High Value Use Forest Species (*Programa de Domesticación y Mejoramiento de Especies Forestales Nativas e Introducidas para Usos de Alto Valor)*
PRONAF	National Programme for Strengthening Family Farming (*Programa Nacional de Fortalecimento da Agricultura Familiar*)

PRONAFOR	National Forestry Program (*Programa Nacional Forestal*)
PROPFLORA	Commercial Planted Forests Program (*Programa de Plantio Comercial e Recuperação de Florestas)*
PRORURAL	Rural Development Program (*Programa de Desenvolvimento Rural*)
PROSOBO	Program of Forest People (*Programa Pueblos Bosques)*
PSA	Payment for Environment Services (*Pagos por Servicios Ambientales*)
PSA-CABSA	Mexico's Program of Payments for Carbon, Biodiversity and Agro-forestry Services
PSAH	National Program for Hydrological Environmental Services
R&D	Research and Development
RAF	Resource Allocation Framework
REDD	Reducing Emissions from Deforestation and Forest Degradation
REDD-plus	Reducing Emissions from Deforestation and Forest Degradation (includes the role of conservation, sustainable management of forests and enhancement of forest carbon stocks)
REIT	Real Estate Investment Trust
RJ	State of Rio de Janeiro, Brazil *(Estado do Rio de Janeiro)*
RMK	Regions Morgan Keegan Timberland Group
RMS	Resources Management Services
RPPF	Forest Plantations Promotion Regime (*Régimen de* Promoción de *Plantaciones Forestales*)
R-PPs	Readiness Preparation Proposals
RVT	Recreational Value Trading
S.A.	Anonymous Society/Corporation (Sociedade Anônima)
SAG	Secretariat of Agriculture and Livestock of Honduras
SAPE-RN	Secretariat of Agriculture, Livestock and Fisheries of Rio Grande do Norte (*Secretaria de Estado da Agricultura da Pecuária e da Pesca do Rio Grande do Norte)*
SAyDS	Secretariat of Environment and Sustainable Development of Argentina (*Secretaria de Ambiente y Desarrollo Sustentable)*
SBI	Subsidiary Body for Implementation
SBSTTA	Subsidiary Body on Scientific, Technical and Technological Advice
SCCF	Special Climate Change Fund
SCF	Spanish Carbon Fund
SCF	Strategic Climate Fund
SCT	Secretariat of Science and Technology (*Secretaria da Ciência e Tecnologia*)
SDI	Social Development Index
SDR	Department of Rural Development
SEAGRO-GO	Department of Agriculture, Livestock and Irrigationof the State ofGoias (*Secretaria de Agricultura, Pecuária e Irrigação do Estado de Goiás)*
SEAM	Secretariat of Environment of Paraguay (*Secretaria Del Ambiente De Paraguay*)
SEBRAE	Brazilian Service to Support Micro and Small Enterprises (*Serviço Brasileiro de Apoio à Micro e Pequenas Empresas)*
SECCI	Sustainable Energy and Climate Change Initiative

SECITE-CE	Secretariat of Science and Technology of the State of Ceará (*Secretaria da Ciência e Tecnologia do Ceará*)
SEMARNAT	Secretariat of Environment and Natural Resources of Mexico
SENAGUA	National WaterSecretariat *(Secretaría Nacional del Agua)*
SENCE	National Service for Training and Employment
SEP	Social and Environmental Policy
SERCOTEC	Technical Cooperation Service
SERNAC	National Consumer Service (*Servicio Nacional del Consumidor*)
SERNAP	National Service of Protected Areas in Bolivia *(Servicio Nacional de Areas Protegidas de Bolivia)*
SERNATUR	National Tourism Service
SFB	Brazilian Forest Service *(Serviço Florestal Brasileiro)*
SFM	Sustainable Forest Management
SGP	Small Grants Programme
SIDS	Small Island Developing States
SIFAP	Federal Systemof Protected Areas andEco-Regions of Argentina (*Sistema Federal de Areas Protegidas y Eco-Regiones de la Argentina)*
SIGAP	Guatemala System of Protected Areas (*Sistema Guatemalteco de Áreas Protegidas)*
SKG	Smurfit Kappa Group
Skogsstyrelsen	Swedish Forest Agency
SLM	Sustainable Land Management
SNAP	National System of Protected Areas (*Sistema Nacional de Areas Protegidas)*
SREP	Scaling-Up Renewable Energy in Low Income Countries
STAR	System for a Transparent Allocation of Resources
SUDAM	Superintendence for Development of the Amazon (*Superintendência de Desenvolvimento da Amazônia*)
TFD	The Forests Dialogue
TIMOs	Timber Investment and Management Organizations
TNC	The Nature Conservancy
TORs	Terms of References
TTG	The Timber Group
TWh	Tera Watt Hour(s)
UC Davis	University of California, Davis
UCF	Umbrella Carbon Facility
UCJSC	JoseSimeonCanasCentral-americanUniversity (*Universidade Centroamericana José Simeón Cañas)*
UFLA	Federal University of Lavras (*Universidade Federal de Lavras)*
UK	United Kingdom
UN	United Nations
UNCCD	United Nations Convention to Combat Desertification
UNCED	United Nations Conference on Environment and Development

UNCSD	United Nations Conference on Sustainable Development
UNCTAD	United Nations Conference on Trade and Development on Trade and Development
UNDP	United Nations Program for Development
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNFF	United Nations Forum on Forests
UNGA	United Nations General Assembly
UNIDO	United Nations Industrial Development Organization
UN-REDD	The United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
UNSG	United Nations Secretary-General
UPM	United Paper Mills
US	United States
USA	United States of America
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
USFS	United States Forest Service
V&M	Vallourec & Mannesmann Tubes
VPAs	Voluntary Partnership Agreements
VAT	Value-Added Tax
VNRC	Vermont Natural Resources Council
WB	World Bank
WD	Western Economic Diversification Canada
WIN	Wood Industries Network
WRI	World Resources International
WWF	World Wide Fund for Nature

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Any errors in the text are the sole responsibility of the author, and the views expressed in this document are those of the author.

INTRODUCTION

Forests are crucial for the economic growth of developing countries. Forests have implications on access to water, rural development, agricultural productivity, climate change, conservation of biodiversity, energy, soil conservation, and flood control.

Forests also contribute to the livelihoods of more than 1.6 billion forest dependent people; an average of one-fifth to one-fourth of the income of forest communities comes from forest-based resources. In many countries, Non-WoodForest Products (NWFPs) contribute significantly to local economies and livelihoods and are considered important exports. NWFPs include food, medicine, aromatic products, resins, plant products, among others (UNEP, 2011a).

More than 2 billion people depend on wood energy for cooking, heating, lighting and other uses. In 2005, biomass energy accounted for an estimated 10% of global energy use. More than 83% of this is used in less developed countries. In many developing countries, biomass accounts for over 50% of total energy use. Halting tropical deforestation and planting new forests could represent the mitigation potential equivalent of doubling current global nuclear energy capacity.

The benefits of reducing deforestation for climate change alone are enormous. Despite these important ecological, economic, social and health benefits, forests are still being destroyed at an alarming rate. While a set of sustainable forestry practices and policies have been in place in many forest countries, they should be further scaled up and enforced to safeguard these natural forest assets (UNEP, 2011a).

There is an urgent need for effective action to implement sustainable management of all types of forests, and to achieve the Global Objectives on Forests (GOFs) reaffirmed in the Non-Legally Binding Instrument on All Types of Forests (NLBI), which are: (i) *Reverse the loss of forest cover worldwide through sustainable forest management, including protection, restoration, afforestation and reforestation, and increase efforts to prevent forest degradation;* (ii) *Enhance forest-based economic, social and environmental benefits, including by improving the livelihoods of forest-dependent people;* (iii) *Increase significantly the area of protected forests worldwide and other areas of sustainably managed forests, as well as the proportion of forest products from sustainably managed forests;* (iv) *Reverse the decline in official development assistance for sustainable forest management and mobilize significantly increased, new and additional financial resources from all sources for the implementation of sustainable forest management* (UNFF, 2008).

The issue of cross-sectorial policy impacts, involving forestry and other sectors, have long been discussed in various contexts. This subject has been discussed in many fora, in particular with a view to getting an optimum outcome in terms of sustainable development. In addition, available cross-sectorial policy analysis focuses on few issues, such as deforestation in the tropics or increased nature protection, and is limited to a few countries or a particular region (FAO, 2002).

The importance of relevant cross-sectorial linkages depend on the specific function of ecosystems and socio-economic context, local, regional or global, that determines opportunities and limitations of alternative land-use. For instance, Latin American and the Caribbean (LAC) countries face large-scale deforestation mainly due to the pressure for agricultural and pasture lands expansion. Cross-sectorial linkages result from public policies that encourage such developments respectively from the policies which can have impacts on forest protection and sustainable forestry development. Major linkages are related to macro-economic, demographic, infrastructure, and agricultural policies (FAO, 2003).

There is a need to identify elements to better specify linkages with other sectors or impacts. There is also a need to emphasize the multifunctionality of forests and promote positive impacts in particular non-commodity outputs of forests and environmental services. Therefore, there is a need to change perspective and take a broader view on positive and negative impacts in an active dialogue with other sectors (FAO, 2002).

In many situations, sustainable forest management requires external financing because usually it requires high investment and/or operational costs, and there may be opportunity costs through loss of revenue from forest products. Sustainable forest management can be self-financing when those who benefit from goods or services pay the appropriate price or compensation for the benefits they receive, including watershed management, prevention of desertification or recreation provision. Other benefits may include public goods or services, such as biodiversity conservation or carbon dioxide emissions reduction. In addition, forests can contribute to poverty eradication, which may also require financial support (UNFF, 2008).

Financing is the mechanism in which money is mobilized, allocated, and used to finance investments based on projects. There are several aspects affecting investments and financing. Investments are generally high when a good investment climate is in place, and there are also proper, effective and accessible financing mechanisms. These are among the most relevant factors considered in private investment decision-making processes, and the private sector is the most important player in forest financing. There are several factors affecting investment climate and therefore also affecting financing. These factors influence the behaviour of all actors, including public institutions, individuals, private sector companies and other investors in forestry projects. They also determine location and size of investments, as well as the demand and access for forest financing to support the required investments.

Main private investors in forestry in Latin America and the Caribbean (LAC) are pulp and paper and solid wood companies planting and managing forests for industrial wood supply.Other major investors are Pension Funds, investing directly or through Timber Investment Management Organizations (TIMOs). The TIMOs operating in the LAC region invest mostly in Pine, Eucalypt and Teak plantations and sell wood in the open market. There are also large players from the oil and mining sectors investing crescent sums in Oil Palm planted forests for biodiesel production, and food companies investing in Cocoa and Mango plantations. Private investments can also be made by large landowners, small farmers and rural communities investing in natural and planted forests, both for wood and non-wood purposes. Other private funding sources are Non-Governmental Organizations (NGOs), foundations, philanthropic organizations and others, investing money in forest-related projects, especially those related to natural forests conservation, capacity building, and Payment for Environmental Services (PES).

Public financing sources are basically Official Development Assistance (ODA). ODA receipts comprise disbursements by bilateral donors and multilateral institutions. Official Development Assistance typically supports capacity building, technology improvement, infrastructure development, environmental conservation and the removal of structural barriers, as well as providing technical assistance and other resources to catalyse development. ODA flows are generally in the form of grants, soft loans or technical assistance.

Total identified sources of forest financing in the Latin America and the Caribbean region totalled an average of almost USD 5.1 billion per year between 2006 and 2011. Private investments contributed with 54% of the total identified. However, this share is probably larger, as private investments are harder to be identified in a per-project basis, and LAC government do not present statistics displaying public and private investments in forestry, not even at a macro-level.

While new sources of forest financing are emerging, significant gaps remain. There is support for a facilitative mechanism that would help mobilize existing and emerging funds, facilitate access to other sources of finance such as venture capital funds, loans, credit and risk guarantee funding to help achieve national and sub-national priorities. It is important giving priority to helping governments to access these sources of finance. The aim would be to facilitate access to funding for developing countries (UNFF, 2008).

This facilitative mechanism might use effective communication about the benefits of sustainable forest management and the NLBI to help further increase the availability of financial resources from all sources. In addition, the mechanism would address the need to improve the coordination and coherence of existing and emerging schemes, and improve availability on

information on those schemes. A matrix tool could be useful in identifying gaps and priorities (UNFF, 2008).

Private sector is by far the major investor in forest-related initiatives. The private sector has also been the main instrument for forest financing. The public sector has the role to improve the business environment to facilitate investments. Actions are needed to overcome barriers and improve the business environment in the forest sector. The existing barriers affect not only the private sector, but also governments and other organizations investments. The barriers create limitations to implement sustainable forest management and reduce the benefits for the countries and the society.

The private sector has, over the past few years, developed new forest-related financing initiatives, and the perspective has been to improve the investment climate to attract new investors. Among the new relevant investors in forest-related projects are the institutional investors, mainly pension funds, but there are also other private investors. This process will continue over the next few years, and investment portfolio diversification is expected.

International public organizations and other global forest-related financing initiatives, over the last decade, have greatly focused on climate change. Other aspects focused are also indirectly linked with climate change, which include issues related to forest law enforcement, restoration of forests and degraded lands, land titling, and biodiversity.

Proposals for the development of a voluntary Global Forest Fund (GFF), a financial mechanism for all types of forests, significantly increased during the last few years. The concept is that the new mechanism should be able to coordinate existing portfolios and any new and additional resources from all sources.

There is strong support for a specific fund earmarked for SFM and the GOFs. This is necessary to meet the challenge of implementing the NLBI. Such a fund could be based on voluntary contributions with governance arrangements open to all regions (UNFF, 2008).

These themes are complexes and have been under discussion over the past few years in international fora. This report identifies sources of financing that may assist Latin America and the Caribbean countries in their efforts to implement the NLBI.

Information on forest finance, with focus on Latin America and the Caribbean region, was identified, collected and analysed, and the findings are presented in this document. The aim is to collaborate with the on-going discussions on financing SFM under the UNFF.The report provides information on identified funds and efforts by LAC countries to address the issue on forest finance, including the challenges of tracking financing flows and to identify funding available at the national level.

This report summarizes all activities undertaken and results obtained by the consultant Ivan Tomaselli during the assignment. It is divided into six main parts:

i. **Sources of Forest Financing:**financial implementation of forest instruments, comprising resources from the public and private sectors applied in all types of forests;
ii. **Gaps and Opportunities for Forest Related Financing:** main public and private forestry financing options available for LAC, including financing demands for SFM and current identified forestry financing areas;
iii. **Trends and Implications of New and Emerging Forest-Related Financing Initiatives:**emerging financing initiatives of the public sector (international organizations and multilateral environmental agreements, joint initiatives, regional and national initiatives) and the private sector;
iv. **Access to Forest Financing:** identification of barriers for access to financing and suggestions to overcome such barriers;
v. **Successful Country Experiences and Initiatives:** selected forest competitive country initiatives and successful initiatives in LAC countries

vi. **Strengthening Forestry Financing:**proposals for strengthening existing forest-related financing initiatives and mechanisms, as well as views on the advantages and disadvantages of establishing the GFF.

1 – SOURCES OF FOREST FINANCING

This chapter presents a general background of the global efforts to support sustainable forest management, particularly related with the UNFF framework. It also presents information on the main types of funding and investment flows with special focus on financing forestry-related projects in LAC region. Precise and updated information on forest financing is essential for decision-making, policy implementation and monitoring of any forestry-related programme. Accurate and reliable investment data helps policy makers to propose and implement appropriate development policies.

1.1 – BACKGROUND

1.1.1 – United Nations Forum on Forests (UNFF)

The Economic and Social Council of the United Nations (ECOSOC) established the UNFF in October 2000 (Resolution 2000/35) to strengthen political commitment in order to promote the management, conservation and sustainable development of all types of forests.

This decision was based on the Rio Declaration, the Forest Principles, Chapter 11 of Agenda 21 on Combating Deforestation and the outcome of the Intergovernmental Panel on Forests (IPF) and the Intergovernmental Forum on Forests (IFF) processes and other key milestones of the international forest policy. The UNFF has universal membership, and is composed of all Member States of the United Nations and the Specialized Agencies (UNFF, 2012).

The main functions of the UNFF are: (i) Facilitate the implementation of forest-related agreements and foster a common understanding on SFM; (ii) Provide for continued policy development and dialogue among Governments and International Organizations; (iii) Enhance cooperation as well as policy and programme coordination on forest-related issues; (iv) Foster international cooperation; (v) Monitor, assess and report on progress of the above functions and objectives; (vi) Strengthen political commitment to the management, conservation and sustainable development of all types of forests; (vii) Enhance the contribution of forests to the achievement of the internationally agreed development goals, such as the Millennium Development Goals; (viii) Encourage and assist countries to develop and implement forest conservation and rehabilitation strategies; and, (ix) Strengthen interaction between the UNFF and relevant regional and sub-regional forest-related mechanisms, institutions and instruments, organizations and processes (UNFF, 2012).

The IPF/IFF processes produced more than 270 proposals for action towards SFM, which form the basis for the UNFF Multi-Year Programme of Work (MYPOW) and Plan of Action, which have been discussed in the annual UNFF sessions.

The Sixth Session of UNFF (UNFF6) held in 2006, agreed on four Global Objectives on Forests (GOFs), providing guidance on the future work of the international arrangement on forests. They are: (i) Reverse the loss of forest cover worldwide through SFM, including protection, restoration, afforestation and reforestation; (ii) Enhance forest-based economic, social and environmental benefits, including by improving the livelihoods of forest-dependent people; (iii) Increase significantly the area of sustainably managed forests, including protected forests, and increase the proportion of forest products derived from sustainably managed forests; and (iv) Reverse the decline in Official Development Assistance (ODA) for SFM and mobilize significantly-increased new and additional financial resources from all sources for the implementation of SFM (UNFF, 2012).

TheUNFF7 agreed, in 2007, to adopt the Non-Legally Binding Instrument on All Types of Forests (NLBI) and a Multi-Year Programme of Work (MYPOW) for the period 2007-2015. MYPOW says that all UNFF sessions until 2015 will address the following issues: (i) Progress in achieving the 4 GOFs; (ii) Progress in implementing the NLBI; (iii) Cross-cutting means of implementation and FLEG in context of themes; and, iv) Regional inputs, multi-stakeholder

dialogue, enhanced cooperation, and inputs from the Collaborative Partnership on Forests (CPF).

At the UNFF7, the development of the voluntary Global Forest Fund (GFF), a financial mechanism for financing all types of forests, was proposed. At the UNFF8, the member Parties discussed the means its implementation, but could not agree on finance issues. Therefore, the special session of UNFF9, convened in 2009, decided to establish two major initiatives to catalyse funding for SFM(UNFF, 2012):

i. Facilitative Process: assistance in mobilizing and supporting new and additional financial resources from all sources for SFM; and,

ii. Open-Ended Intergovernmental *Ad Hoc* Expert Group on Forest Financing (AHEG):formulate proposals on strategies to mobilize resources to support the implementation of SFM, the achievement of the GOFs and the implementation of NLBI.

The AHEG has been mandated to meet twice before UNFF10 to consider and propose strategies for mobilizing resources from all possible sources, including, *inter alia*, by strengthening and improving access to funds and the possible establishment of the voluntary GFF (ECOSOC, 2010).

The first meeting of the AHEG was held in September 2010. Based on the outcome of AHEG1, the UNFF9 adopted a resolution in which the UNFF agreed on a series of actions to be undertaken by countries, international and regional organizations and processes, major groups and UNFF secretariat, in preparation for the AHEG2 and the UNFF10.

The Resolution of UNFF9 specifically invites the members of the CPF to expand and update the 2008 finance paper for the AHEG2, which is supposed to be held towards the end of 2012. UNFF10, to be held in April 2013, is mandated to reach a decision on forest financing. The AHEG expects to submit its recommendations for consideration at UNFF10.

1.1.2 – Non-Legally Binding Instrument on All Types of Forests (NLBI)

The Non-Legally Binding Instrument on All Types of Forests (NLBI) was agreed at the Seventh Session of the UNFF in April 2007 as mentioned above, and it was adopted by the UN General Assembly (UNGA) on 17 December 2007. The NLBI is considered a breakthrough, as for the first time the UN Member States have agreed to an international instrument for financing SFM. The instrument is expected to have a major impact on international cooperation and national actions to reduce deforestation, prevent forest degradation, promote sustainable livelihoods and reduce poverty for all forest-dependent peoples (UNFF, 2012).

The purpose of this instrument is: (i) Strengthen political commitment and action at all levels to implement effectively sustainable management on all types of forests and to achieve the shared global objectives on forests; (ii) Enhance the contribution of forests to the achievement of the internationally agreed development goals, including the Millennium Development Goals, in particular with respect to poverty eradication and environmental sustainability; (iii) Provide a framework for national action and international cooperation (UNGA, 2008).

Under the NLBI, Member States should respect the following principles, which build upon the Rio Declaration on Environment and Development and the Rio Forest Principles: (i) The instrument is voluntary and non-legally binding; (ii) Each Member State is responsible for SFM and for the enforcement of its forest-related laws; (iii) Transparent and participatory involvement of stakeholders in forest decision-making processes that affect them, and in implementing SFM; (iv) Achieving SFM in developing countries and in countries with economies in transition, depends on increased, new and additional financial resources from all sources and good governance at all levels; (v) International cooperation, including financial support, technology transfer, capacity-building and education are crucial to support the efforts of all countries towards SFM (UNGA, 2008).

The key thematic areas of the NLBI are: (i) Development and implementation of NFPs or equivalent strategies; (ii) Cross-sectorial policy and programme coordination; (iii) Governance; (iv) Forest law enforcement in line with national legislation; (iv) International trade in forest products; (v) Stakeholder participation; (vi) Strengthening of science and research; (vii) Public awareness and education; (viii) Means of implementation, in particular finance; (ix) Integration of priorities and programs of CPF; (x) Criteria and indicators for SFM; and (xi) Monitoring, assessment and reporting. The NLBI added-value are:

i. Provides more articulated and practical framework for SFM and achievement of GOFs;
ii. Strengthens the principle of SFM as basic tenet of sustainable development;
iii. Reinforces recognition of the need for financial resources for implementation;
iv. Reinforces the UNFF as the global body for deliberations on international forest policy;
v. Offers platform for coordinating forest-related agreements and processes;
vi. Provides a backbone for any future action that may be needed to strengthen the NLBI: platform for coordinating forest-related agreements and processes;
vii. Reflects international commitment to promote implementation of SFM through a new, more holistic approach;
viii. Provides greater connection between action at country level and the GOFs;
ix. Reinforces recognition of need for financial resources for implementation of international forest policy.

1.2 – FOREST FINANCING

The difficulties involving data collection, compilation and analysis of information on forest investments and financing are widely recognized. Surveys of major financing and funding resource flows directed to the forest and the forest-based sector are out-dated, with only a few concise and informative reviews published along the last years (UNFF, 2006b).

A study named “Financing Flows and Needs to Implement the Non-Legally Binding Instrument on All Types of Forests”, carried out in 2008, attempted to provide systematic and objective analysis of the funding sources and gaps focusing on external sources (PROFOR, 2008). Nevertheless, estimating the investments in forestry is a difficult task, as detailed and updated information on the issue is scarce or simply not available.

In order to gather the existing information on forest investments and financing, a number of different sources were consulted. Most relevant information was collected from multilateral (World Bank, GEF, IDB, FAO, ITTO, among others) and bilateral (NORAD, KFW, GIZ, USAID, JICA, DFID, LAC Country Governments, among others) public organizations, and from the private sector. In spite of a relatively large number of sources, the information available is in most cases scarce and scattered, or do not refer directly to investments in forestry.The main financing sources can be classified into two general categories: private and public, as shown in Table 1.

Table 1 – Forest Financing Sources

CATEGORY	FINANCING SOURCE
Private	Commercial Investors
	Financial Institutions
	Philanthropic Organizations
Public	Bilateral ODA
	Multilateral ODA

Source: UNFF (2006b), adapted by the Consultant.

Main private investors in forestry in LAC are pulp and paper companies planting mainly Eucalypt and Pine for their own industrial supply. Other investors are institutional investors, mainly pension funds investing directly or through Timber Investment and Management Organizations (TIMOs). The TIMOs invest mostly in Pine, Eucalypt and Teak plantations and sell wood in the

open market. These investments are easier to be identified, given their sizable magnitude of resources involved.Private investments can also be made by large landowners, small farmers and rural communities investing in natural and planted forests, both for wood and non-wood purposes. These investments are not so easily identified.

Other private funding sources are non-governmental organizations (NGOs), foundations, philanthropic organizations and others, investing money in forest-related projects, especially those related to natural forests conservation, capacity building and payment for environmental services (PES). Private financial institutions also invest in forestry; however, the potential for more investments is huge.

Public financing sources are basically Official Development Assistance (ODA) (CPF, 2012a). ODA comprise disbursements by bilateral and multilateral institutions. ODA typically supports capacity building, technology improvement, infrastructure development, environmental conservation and the removal of structural barriers, as well as technical assistance and other resources to catalyse development. ODA flows are generally in the form of debt, grant, or technical assistance and have two main channels:

i. Bilaterally: from the donor agency to the recipient;
ii. Multilaterally: through international agencies which raise their resources from donor agencies and international financial markets.

Total identified sources of forest financing in the Latin America and the Caribbean region totalled together an average of almost **USD 5.1 billion per year** between 2006 and 2011. Private investments contributed with 54% of the total (see Table 2). More details on the different identified financing sources are presented in the sequence.

Table 2 – Identified Sources of Forest Financing in Latin America and the Caribbean (2006-2011)

SOURCE	USD MILLION PER ANNUM	SHARE
Private	**2,761**	**54.3%**
Commercial	2,697	53.0%
Financial	17	0.3%
Philanthropic	47	0.9%
Public	**2,327**	**45.7%**
Bilateral	1,528	30.0%
Multilateral	798	15.7%
TOTAL	**5,088**	**100.0%**

Source: Arauco (2010); BMZ (2008, 2010); BNDES (2010); DANA (2009); Eldorado (2012); EC (2010); FAO (2012c); Fibria (2011); GEF (2012b); IDB (2012b); IISD (2011); ITTO (2011b); MI (2009, 2010); Natura (2012); Nestle (2011); NORAD (2012c); Petrobras (2012); STCP (2012); Suzano (2012); UNDP (2008); UPM (2011); Uruguay XXI (2011); USAID (2010); Vale (2012a,b); World Bank (2012d), adapted by the Consultant.

1.2.1- Private Investments

Direct Investments (DI) are the most important source of private finance to develop economic activities all over the world, which also applies to forest-related activities. DI is traditionally divided into Domestic Direct Investment (DDI) and Foreign Direct Investment (FDI).

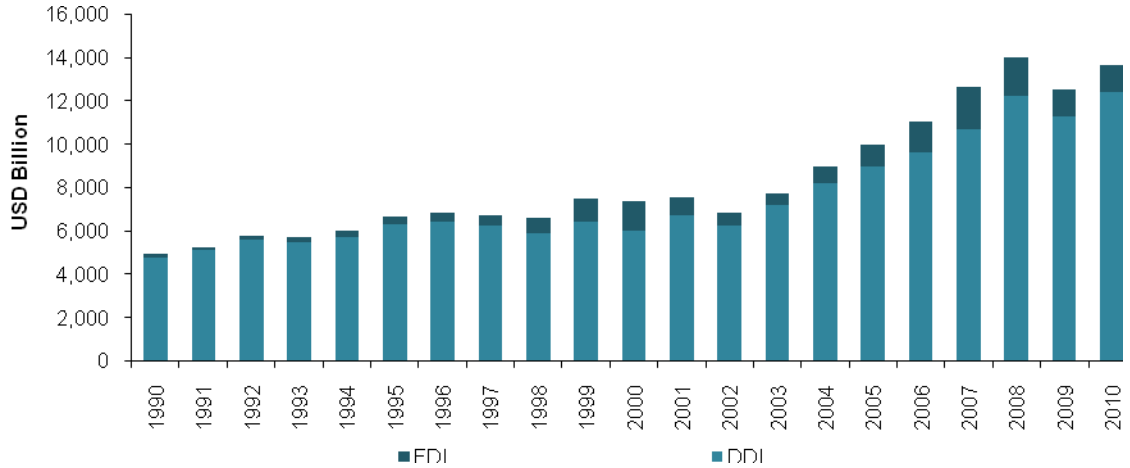
Direct investments are effective or direct control/ownership of the business through the ownership of the capital (the holding of “equity”, or “shares”, that legally allow the control of capital and command of the investment). These may include the supply of capital goods (e.g. equipment, land, etc.) or services (e.g., training).

- **Overall Trend**

Worldwide

At the world level, total DI has grown 9% per year between 1990 and 2010, reaching USD 13.7 trillion in 2010. FDI share of the total DI was 4% in 1990 and 10% in 2010 (Figure 1). It should be noted that there was a slight DI decrease in 2009 due to the international economic crisis, but it increased again in 2010.

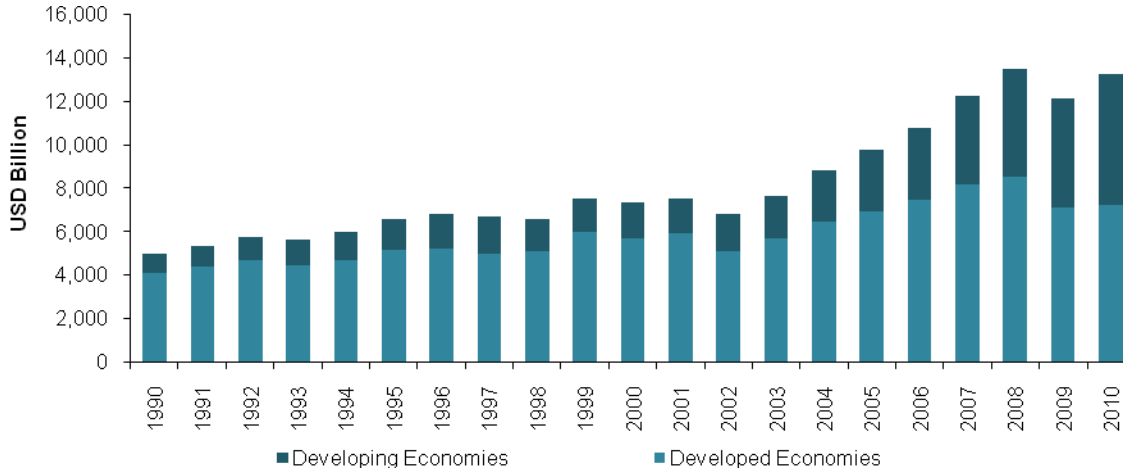
Figure 1 – Evolution of Direct Investment Flow Worldwide, by Source (1990-2010)



Source: UNCTAD (2011), adapted by the Consultant.

The share of DI received by developing economies increased from 18% of the total in 1990 to 45% in 2010, as shown in Figure 2. Most investments in developing countries were oriented towards the countries of emerging economies, including Brazil, Russia, India, and China (BRICs). These countries are characterized by fast-growing economies, with large territories and populations, which are organizing themselves into an economic bloc that has increased their economic power and the global market share.

Figure 2 – Evolution of Direct Investment Flow Worldwide, by Recipient (1990-2010)

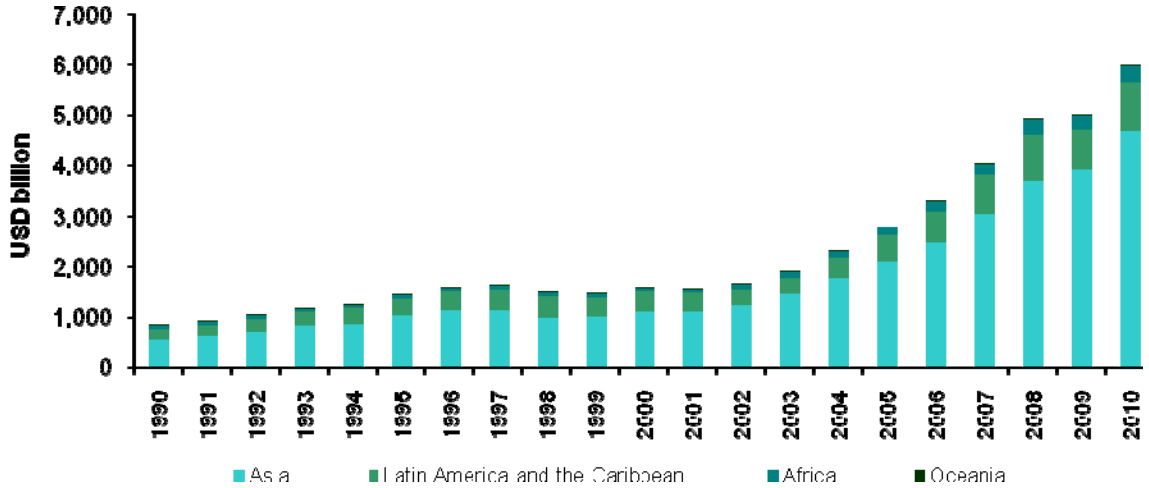


Source: UNCTAD (2011), adapted by the Consultant.

- *Developing Economies*

Direct investments in developing economies along the last 20 years are presented in Figure 3. LAC share in the DI in developing economies decreased from 24% in 1990 to 16% in 2010. During this period, Asia increased its share over DI flow from 65% to 78%. The largest recipient country of DI among developing economies was China.

Figure 3 – Evolution of Direct Investment Flow to Developing Economies

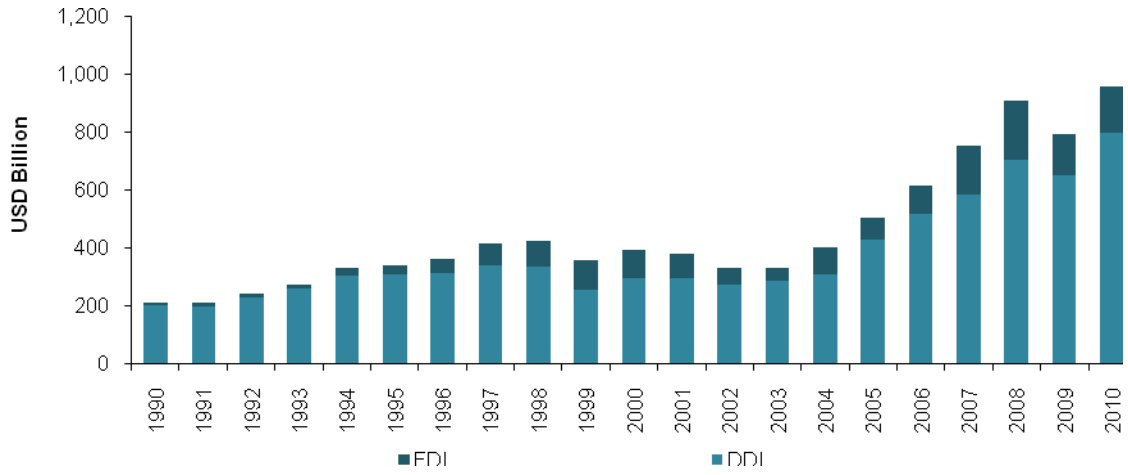


Source: UNCTAD (2011), adapted by the Consultant.

- *Latin America and the Caribbean*

In LAC countries DI flows have grown 18% per year between 1990 and 2010. In 2010 DI in LAC reached USD 957 billion, equivalent to 7% of the world total (4% in 1990). FDI share in LAC countries increased from 4% in 1990 to 17% in 2010. The increase of FDI share in LAC occurred when several countries, especially Brazil, Mexico and Argentina, started opening their economies, during the 1990s. This movement led to a large organizational change in technical and administrative areas of these emerging economies towards market orientation, and facilitated the flow of investments. In spite of a slight investment decrease in 2009, due to the global economic crisis, the investment flow recovered in 2010, establishing a new record (see Figure 4).

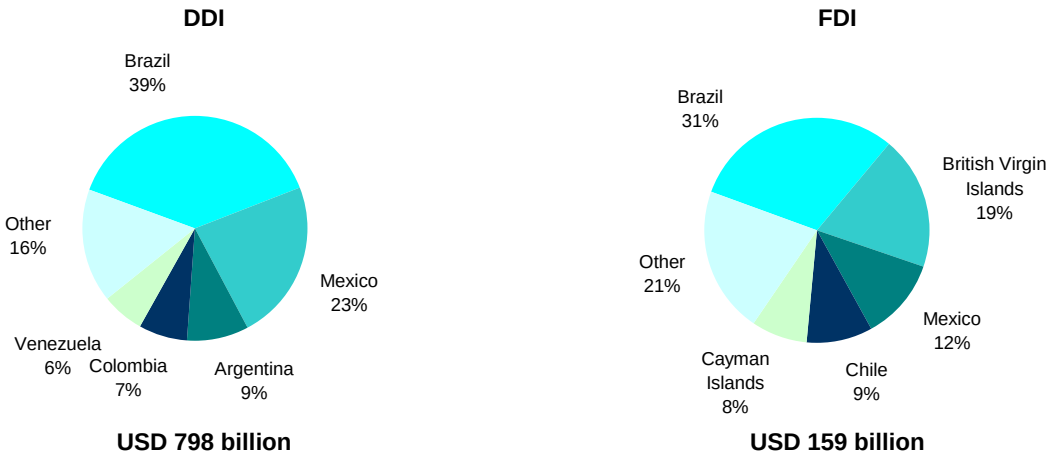
Figure 4 – Evolution of Domestic DI and Foreign DI Flow to Latin America and the Caribbean (1990-2010)



Source: UNCTAD (2011), adapted by the Consultant.

About 83% of the total LAC DI (USD 798 billion), were DDI and 17% (USD 159 billion) were FDI. Among LAC countries Brazil was the largest recipient of DI, with 39% of the total DDI, and 31% of FDI inflows, as shown in Figure 5.

Figure 5 – Direct Investment Flow Share in LAC, by Recipient Country (2010)



Source: UNCTAD (2011), adapted by the Consultant.

- **LAC Private Sources of Investment in Forestry**

The private sources of forestry-related investments in LAC countries are commercial companies, financial institutions, and philanthropic organizations.

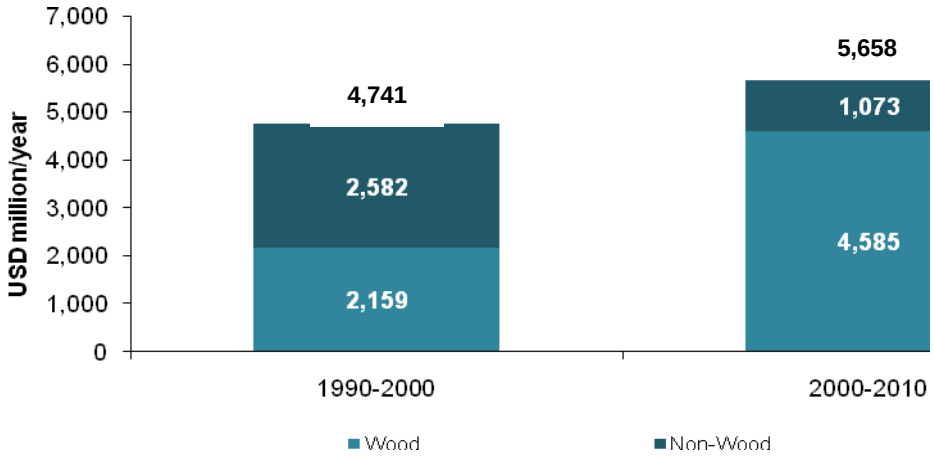
- *Commercial Investors*

There is limited information about direct investments in forestry in LAC. Most countries of the region have no specific data on investments in the forest sector, and this creates difficulties for the analysis.

Most of the private sector investments in forestry were carried out in Brazil and Chile, but Uruguay and Argentina also had important investments (IDB, 2008a). Investments were mainly in planted forests. Based on the information available related to planted forests area trends, were identified the expansions being carried out. Crossing this information on planted forests expansions with average financial investments in new forest plantations, including establishment, maintenance and production, were estimated the minimum private sector investments in the forest sector in LAC.

Data available indicates that estimated investment in new planted forests ("greenfield forests") was around USD 4.7 billion per year between 1990 and 2000. These investments increased 21% between 2000 and 2010, and reached around USD 5.7 billion per year.During the 1990-2000 period, almost 46% of the investments were in plantations for wood purposes (energy, solid wood products, wood panels, pulp), a share that increased to 81% of the total in the 2000-2010 period (see Figure 6). Plantations for non-wood purposes are generally for biodiesel, food, beverages, and rubber production. REDD related activities probably represent a very small fraction of these new investments, of at maximum 1%.

Figure 6 – Annual Average Greenfield Planted Forests Commercial Investments in LAC



Source: FAO (2010c, 2012d); STCP Database (2012); AGRAFNP (2011); UC DAVIS (2012), adapted by the Consultant.

More details on the identified private commercial investments in forestry between 2006 and 2011 are presented in Table 3. Investments were mainly made by the pulp & paper and wood panel companies (90.5%), investing mostly in Eucalypt and Pine plantations. The investments in forests for non-wood purposes (8.6% of the total), include mainly Palm Oil plantations for biodiesel, Cocoa plantations for chocolate, and Mango plantations for juice production. Investments identified in the sustainable management of natural forests are relatively small (0.5% of the total identified).

The information on private sector investments identified for the forestry sector in LAC, over the 2006-2011 period, points out that Brazil had the largest portion (almost 68% of the total). The country already has large areas of softwood and hardwood plantations, and there are large new timberland projects in the pipeline (DANA, 2009).

The private sector has been, by far, the largest financer of forest-related activities. The main private sector investors along the last decades have being the pulp and paper and the solid wood industry. Over the last few years the private sector, with the support of governments and in cooperation with new investors and the civil society, has developed new forest-related financing initiatives. This was basically carried out through the creation of new mechanisms, developed to attract investors in forest assets. New investors are coming from outside the forest industry, and previously had generally little connections with the forest sector.

Direct investments (DI) are important for the forest sector. There are evidences that the direct investments in sustainable forest projects contribute to increase the production, productivity and competitiveness of the forest sector, which generates employment, reduces poverty and help to improve the environment. To increase DI it is important to improve the investment climate to attract the capital needed to promote the sustainable development of the forest sector (Nascimento and Tomaselli, 2005).

The private sector has, over the past few years, developed new forest-related financing initiatives, and the aim is that governments improve the investment climate to attract new private investments. Among the new relevant global investors in forest-related projects are institutional investors, mainly pension funds, but there are also other private investors. The idea is basically to diversify portfolio investments of institutional investors, offering a long-term low risk (low standard deviation) investment alternative, with a relatively high return (IWC, 2008).

Table 3 –Identified Private Commercial Investments in Forestry in LAC (2006-2011)

COUNTRY	PROJECT TYPE	COMPANY	USD MILLION PER YEAR	SHARE
Brazil	Planted Forests for Wood Purposes	Aperam, Arauco, ArcelorMittal, Batistella, Berneck, Brookfiled*, BSC, Cambium*, CeluloseIrani, Cenibra, Claritas*, CMPC, Duratex, Eldorado, Eucatex, FBI*, FC*, Fibria, Galtere*, GFP*, GTF*, Hancock*, Ibiraçu, Klabin, Marubeni, Masisa, Micapel, Phaunus*, Quadris*, Replasa, Rigesa, RMS*, Suzano, Tanac, Tarumã, Timber Value*, TTG*, V&M, Vale Florestar	1,595.2	59.1%
	Planted Forests for Non-Wood Purposes	Grupo Fischer, Petrobras Biocombustiveis, Vale Biocombustiveis	218.7	8.1%
	Natural Forests Sustainable Management	Amata, Terra Capital, Petrobras, Natura	12.6	0.5%
Uruguay	Planted Forests for Wood Purposes	Arauco, Aurora Forestal*, Celulosa Argentina, Ence, GMO*, Harvard*, IBG (Iberpapel), Phaunus, Pradera Roja*, RMK*, StoraEnso, UPM, Weyerhaeuser	382.3	14.2%
Argentina	Planted Forests for Wood Purposes	Arauco, Celulosa Argentina, CMPC, GEF*, GFP*, IBG, Los Boldos Harvard*, Masisa, Pomera, Zeni	297.7	11.0%
Chile	Planted Forests for Wood Purposes	Arauco, CMPC, ComacoForestal, GMO*, LignumFund*, Masisa, Orion Capital*	150.6	5.6%
Colombia	Planted Forests for Wood Purposes	Argos*, SKG	13.7	0.5%
Venezuela	Planted Forests for Wood Purposes	Masisa, SKG	9.8	0.4%
Dominican Republic	Planted Forests for Non-Wood Purposes	Kraft Foods	7.0	0.3%
Ecuador	Planted Forests for Non-Wood Purposes	Nestle	6.1	0.2%
Panama	Planted Forests for Wood Purposes	Futuro Forestal*, United Natural*	2.3	0.1%
Haiti	Planted Forests for Non-Wood Purposes	Coca-Cola	0.7	0.0%
Peru	Natural Forests Sustainable Management	Terra Nueva	0.4	0.0%
Planted Forests for Wood Purposes			**2,451.7**	**90.9%**
Planted Forests for Non-Wood Purposes			**232.5**	**8.6%**
Natural Forests Sustainable Management			**13.0**	**0.5%**
TOTAL			**2,697.1**	**100.0%**

* Timberland Funds

Source: Arauco (2010); DANA (2009); Eldorado (2012); Fibria (2011); Natura (2012); Nestle (2011); Petrobras (2012); STCP (2012); Suzano (2012); Uruguay XXI (2011); UNDP (2008); UPM (2011); USAID (2010); Vale (2012a,b), adapted by the Consultant.

Investment returns in forest assets are expected to be primarily a result of increase in the market prices for wood and non-wood products, combined with biological growth. But also improving forest management and trade, land appreciation over time and other alternatives (environment services, land use changes and others), are considered by investors to improve

the investment returns. Some factors improving DI in forest projects recently are presented below.

Timber Investment and *Management Organizations (TIMOs)*

TIMOs are among the factors that facilitated the development of forest-oriented investment funds, and helped new investors to create more confidence in forest investments.A TIMO is a management group that help institutional investors to identify, structure and manage timberland investments. A TIMO acts as a broker for institutional clients. The primary responsibilities of TIMOs are to find, analyse and acquire investment properties that would best suit their clients. Once an investment property is chosen, the TIMO is given the responsibility of actively managing the timberland to achieve adequate returns for the investors.

TIMOs developed in the 1970s after the United States Congress passed legislation that encouraged institutional investors to diversify their portfolios. In 2002, a study carried out by Yale's Program on Private Forest Certification showed that approximately USD 14.4 billion in land was managed by TIMOs.

Worldwide investments of institutional investors in timberland assets managed by TIMOs are currently estimated to be over USD 40 billion. The institutional investors and TIMOs that were 20-30 years ago a typical US investment management model, are today a global model to manage timberland investments. There are TIMOs managing investments on behalf of new investors (institutional and others) in North America, Latin America, Europe, Asia and Oceania (HTRG, 2012).

In LAC region there are TIMOs managing large timberlands areas mainly in Brazil, Chile, Uruguay and Argentina. Practically all TIMO investments in these countries are in planted forests for wood purposes. There are also TIMOs managing smaller timberland investments in Ecuador, Costa Rica, Panama, Nicaragua and other countries of the region.

The California Public Employees' Retirement System (CalPERS) is the United States' largest public pension fund with over USD 245 billion in assets. It has recently invested in a USD 40 million timberland holding in Brazil, through the TIMO called GFP. The Harvard Endowment Fund (HEF), with a USD 35 billion fund, holds a substantial allocation of its assets in timberlands. In 2007, the HEF, through its company Los Boldos Harvard, acquired 38,000 ha of Pine and Eucalyptus timberland in Argentina, purchased at a cost of USD 107 million.

The Ontario Teachers' Pension Plan (OTPP) is Canada's largest pension fund manager, investing USD 79 billion in assets and for administering the pensions of Ontario's 250,000 active and retired teachers. OTPP has global infrastructure and timberland assets worth USD2.3 billion. This is another fund looking for forest investment opportunities in Brazil.

In LAC, timberland funds invested altogether an average of USD 323 million per year over the period 2006-2011, or 12% of the total private investments in forestry. Out of this total, about 68% has been invested in Brazil, through funds such as Brookfield, Cambium, Claritas, Florestal Brazil Investment (FBI),FC, Galtere, Global Forest Partners (GFP), GTF, Hancock Timber Resource Group (HTRG), Phaunus, Quadris, Resources Management Services (RMS), Timber Value, the Timber Group (TTG), and Terra Capital. Uruguay got 14% (Aurora Forestal, GMO, Pradera Roja, RMK Timberland Group), Argentina got 12% (GEF, GFP, Los Boldos Harvard), and Chile got 6% (GMO, Lignum Fund, Orion Capital).

Real Estate Investment Trust (REIT)

Another factor that contributed to the development of new private forest-related investments in the United States is the Real Estate Investment Trust (REIT). The REIT is a security that sells like a stock on the major exchanges and invests in real estate directly, either through properties or mortgages. REITs receive special tax considerations and typically offer investors high yields, as well as a highly liquid method of investing in real estate.

Individuals can invest in REITs either by purchasing their shares directly on an open exchange or by investing in a mutual fund that specializes in public real estate. An additional benefit to investing in REITs is the fact that many are accompanied by dividend reinvestment plans (DRIPs).

Among other things, REITs invest in shopping malls, office buildings, apartments, warehouses and hotels. Timberlands are considered a real estate investment in some countries, and therefore have the same special tax consideration, making the forest-related investment more attractive, which is expected to develop in LAC countries.

Forestry Partnership Program

The Forestry Partnership Program is another alternative of involving investors from outside the forest sector. The program mechanism is not new, but innovations in recent years have facilitated the involvement of a larger number of small land owners in some LAC countries, especially in Brazil.

In principle, the Forestry Partnership Program has the objective to enable rural landowners to participate in the timber production chain through forest plantations. The program generally has a forest industry that provides to land owners of the region technical assistance to establish and manage forest plantations, and facilitates the access to special financing lines. The forest industry, by involving the local community, hopes to create new opportunities for the region, improve forest business investment climate, strengthening its sustainable management model and have access to new raw material supply sources.

The Forestry Partnership Programs are part of the investments of several forest sector companies in Brazil and several new approaches have been considered. Small land owners are stimulated to develop forestry activities, enabling the most diverse types of alternative farming and assisting with the conservation of legal reserves and permanent preservation areas, contributing towards environmental balance and sustainable wood production. Some companies have more than 1,000 landowners involved in their Forestry Partnership Program and can contribute with around 30% of the total wood supply (Suzano, 2012).

The investments are made in a sustainable manner with the involvement of local communities. Adequate communication channels are established to inform communities on the program and to receive suggestions. Meetings with community associations to discuss specific programs and actions are regularly carried out. This has helped to consolidate the relationship of the forest industries with the people that live in their regions of influence, as well as with the public and private organizations of the municipalities they are inserted.

In some cases financing institutions are also involved. In Brazil, the most frequently financing organizations involved are public banks, such as the Bank of Brazil(BB) and the Bank of Northeast Brazil (BNB). These banks have special credit lines available to support small land owners in the establishment and management of forest plantations. The program includes coordination with governments and financial institutions to facilitate the access of small land owners to credit lines and other aspects. It is expected that investments towards these programs will increase along the next years, and this will lead to strong positive implications on some regions approach towards forestry.

- *Financial Institutions*

Private financial sector investors are the largest financial organizations at world level. However, investments in forestry are still incipient, since there are almost no public mechanisms to attract these funds. The only identified forestry-related investments from private financial institutions in LAC were carried out by Bradesco and by Bovespa.

Bradesco

Bradesco, the second largest Brazilian private bank, is one of the co-founders and main supporter of the Sustainable Amazon Foundation (FAS). In 2008, it donated USD 11.4 million for the creation of the FAS, in collaboration with the government of the State of Amazonas, Brazil. The resources were applied in a permanent fund, where only the profits are invested every year, exclusively in the payment of the beneficiaries of the "Programa Bolsa Floresta", a scheme of Payment for Environmental Services (PES) supplied by natural forests in the state of Amazonas. The permanent fund permits the FAS program to be financially sustainable in the long-term.

Bradesco also supplies to the FAS a minimum annual contribution of USD 5.7 million, through the sale of credit cards from the FAS and from the capitalization fund called the "Pé Quente". These resources are destined to the establishment of the components "Income", "Social" and "Association" of the *Programa Bolsa Floresta*, its programs and support projects, and for the payment of the FAS operational expenses (FAS, 2009).Information on the Bradesco forestry-related investments is summarized in Table 4.

Table 4 – Bradesco Forestry-Related Projects (2008-2012)

Project Title	Timeframe		Value (USD Million)		Share
	From	To	Total	Annual	
Initial Investment in the Bolsa Floresta	2008	2008	11.4	11.4	66.7%
Annual Contribution to the Bolsa Floresta	2008	2012	28.6	5.7	33.3%
Total			**40.0**	**17.1**	**100.0%**

Source: FAS (2009), adapted by the Consultant.

São Paulo Stock Exchange (BOVESPA)

The São Paulo Stock Exchange (BOVESPA) has launched the Environmental and Social Stock Exchange (BVS&A) in 2003, which is a type of stock exchange having the environment, health, education and training as subject matters. It is an initiative that uses the same model as stock exchange to bring together non-profit organizations that require funds and social investors willing to support their programs and projects.

Table 5 – BOVESPA Forestry-Related Projects (2005-2012)

Project Title	Timeframe		Investment (USD Million)		Share
	From	To	Total	Year	
What is Green Gives Life	2011	2012	0.06	0.03	21%
Schools in Action	2011	2012	0.06	0.03	21%
Biodiversity Condominium - Conservation Support Program	2011	2012	0.06	0.03	21%
Green Caatinga Project	2011	2012	0.06	0.03	20%
Giant Guarani: Social inclusion, springhead recovery and agroecological management	2005	2007	0.05	0.02	18%
Total			**0.28**	**0.13**	**100%**

Source: BM&F Bovespa (2011), adapted by the Consultant

There were over 60 projects with financing needs varying from USD 17,143 to USD 85,715, which all of them have been fully funded up to 2007 (FAO, 2007a). As of February 2012, USD

6.9 million was raised, with 109 projects listed since 2003, and 103 projects have received 100% of resources (BM&F Bovespa, 2011). Out of this total, USD 280,000 were forestry-related projects.

- *Philanthropic Organizations*

The main identified sources of forest financing by philanthropic organizations (basically NGOs) identified by the consultant in LAC, for the 2001-2022 period, are presented in Table 6. Over this period the investments of the main philanthropic organizations in forest programs/projects achieved an average of almost USD 47 million per year. More details on the relevant philanthropic organizations financing forest related projects are presented below.

Table 6 – Main Identified Sources of Forest Financing by Philanthropic Organizations in LAC (2001-2022)

Investor	Countries		Timeframe		Value (USD Million)		Share
	Investor	Recipient	From	To	Total	Annual	
CI	United States	Peru	2010	2010	3.5	3.5	7.5%
EcoFund	United States	Ecuador	2005	2022	16.9	0.9	2.0%
FUNDESNAP	United States	Bolivia	2003	2013	21.2	1.9	4.2%
Helvetas	Switzerland	Peru	2006	2011	10.0	1.7	3.6%
Moore Foundation	United States	Brazil	2001	2008	200.0	25.0	53.3%
TNC	United States	Costa Rica	2006	2007	26.0	13.0	27.7%
World Cocoa Foundation	United States	Ecuador	2008	2009	1.8	0.9	1.9%
Total					**279.4**	**46.9**	**100.0%**

Source: CI (2010); Helvetas (2012); USAID (2008); TNC (2007), adapted by the Consultant.

Conservation International (CI)

The CI is committed to maintaining the highest standards of stewardship over the funds entrusted to it. In 2010 around 82% of every dollar spent directly supported CI's programs. Management and operations accounted for 11% of total spending, and development accounted for 7%. In 2010, CI invested almost USD 139 million in conservation programs all over the world. It invested nearly 70% of its resources in its people and in its partners. Thirty-eight per cent of its budget supports its staff, recognized experts in their respective fields and countries. Grant making, which comprised 31% of its expenditures in 2010, represents a cornerstone of CI's programmatic delivery.

The Ecosystem Finance Division awarded more than USD 19.8 million in grants to non-governmental and private-sector partner organizations globally to stem the tide of biodiversity loss, ensure healthy communities and protect the ecosystem services upon which they depend, an example of CI's successful approach to working hand in hand with partners to achieve positive, lasting results. CI stands upon a strong financial footing, having closed 2010 with net assets of USD 230 million. In 2010, CI secured a USD 7 million commitment from the Walt Disney Company to develop large-scale REDD+ implementation programs in Peru (50%) and the Democratic Republic of the Congo (50%), the single largest corporate commitment to REDD+ to date (CI, 2010).

EcoFund Ecuador

The EcoFund Ecuador is a private environmental trust fund established in 2005 with a capital of USD 16.9 million, and co-finances conservation and sustainable development projects, mainly in the region directly affected by the crude oil pipeline. The EcoFund is the outcome of a consensual process involving the two enterprises (Crude Oil Pipeline OCP Ecuador and the EnCana Corporation) and a group of social and environmental NGOs. Together with the

Ecuador EcoFund Foundation and the Ecuador EcoFund Commercial Trust Fund, the National Environmental Fund (FAN) participates in the management and operation of the EcoFund.

The FAN is responsible for technical, administrative and financial management and for the design of methodologies, instruments, strategies for the cycle of projects to be approved by the EcoFund. The EcoFund has a varying duration. For example, the EnCanafunds invested up to 2009 and OCP funds will be invested up to 2022. Sixty per cent of its resources will be invested in areas along the route of the pipeline, 30% in parks and protected areas located in oil production areas, and 10% in fragile areas of strategic importance, considering that 50% of the resources of each project will be allocated to conservation, 35%to training, and 15% to research (FAO, 2009b).

Foundation for the Development of the National System of Protected Areas (FUNDESNAP)

Since 2000, the FUNDESNAP has contributed to strengthen protected areas at national, departmental and municipal levels in Bolivia. Its mission is to contribute to the development and sustainability of the national system of protected areas, by raising, channelling, and managing financial and non-financial resources for the implementation of programs, projects and activities, integrating the different sectors of Bolivian society.

FUNDESNAP develops activities inside and outside protected areas, such as ecological systems, biological corridors, buffer zones, community lands and trans-boundary protected areas, among others (FUNDESNAP, 2011a). To manage program and project funds, FUNDESNAP has staff capable to work with public and private entities, including social organizations, indigenous counterparts and community producers, at a local, regional national and international level (FUNDESNAP, 2011b). FUNDESNAP is formed by several organizations, which together invested an average of USD 1.9 million per year.

Helvetas Swiss Intercooperation

The Helvetas Swiss Intercooperation is one of the most experienced and largest development organizations in Switzerland. It was established in 2011 with the merger of two organizations, Helvetas (founded in 1955) and Intercooperation (founded in 1982). As a politically neutral association, the Helvetas Swiss Intercooperation is supported by over 100,000 members and sponsors as well as 12 regional groups of volunteers.

Over 1,200 local and 60 international employees are engaged in 30 partner countries in Africa, Asia, Latin America and Eastern Europe. A total of 130 people work at the Bern and Zurich offices, as well as at the branches in Lausanne and Balerna. They coordinate development projects, offer advisory services to governmental and non-governmental organizations and raise awareness concerning the problems faced by people in developing countries. In 2009, it started developing the project called the Climate Change Adjustment Program (PACC), in Peru, with a total budget of USD 10 million (HELVETAS, 2012).

Moore Foundation

The Moore Foundation is the largest private donor to the Amazon Foundation conservation and research program. It allocated more than USD 200 million to projects in the Amazon region since 2001. The goal of the foundation´s Andes-Amazon Initiative is to conserve the Amazonian forests, which provide habitat for biodiversity and regulate the regional climate. Much of Amazon research in recent years has been funded to some degree by the Moore Foundation.

Organizations such as the Conservation International (CI), the World Wildlife Fund (WWF), the Field Museum, the Wildlife Conservation Society, the Amazon Conservation Association, the

Woods Hole Research Center, the *Instituto Internacional de Educação do Brasil*, the *Instituto Socioambiental* (ISA), and the Amazon Conservation Team have received grants from the Moore foundation since 2001 (USAID, 2008).

The Nature Conservancy (TNC)

TNC is the leading world conservation organization working to preserve the plants, animals and natural resources. TNC is present in the United States and in the more than 30 other countries. Water funds are a unique financial tool in which urban water users subsidize conservation in upstream watersheds as a cost-effective way to ensure sustainable freshwater supplies. The Latin American Water Funds Partnership, launched in 2011 by TNC, the FEMSA Foundation, the Inter-American Development Bank (IDB) and the Global Environment Facility (GEF), seeks to preserve and restore watersheds and protect important water supplies in the region (TNC, 2011). The TNC and the CI brokered the largest-ever debt-for-nature swap under the Tropical Forest Conservation Act. Under the deal, the United States will forgive USD 26 million in debt owed to it by Costa Rica. In turn, Costa Rica will spend USD 26 million to conserve tropical forests in six areas-sites chosen from a blueprint of conservation gaps that the TNC helped creating for Costa Rica (TNC, 2007).

1.2.2 – Public Investments

Public sector investments in the forest sector includes bilateral (from developed countries and LAC countries) and multilateral (traditional and emerging) institutions.Total identified ODA (bilateral and multilateral) in forestry in LAC reached an average of more than **USD 2.3 billion** per year between 2006 and 2011, as shown in Table 7. Almost 66% of the total identified is bilateral. The World Bank Group was the largest individual source of funds.

Table 7 – Main Public/ODA Identified Sources of Forest Financing in LAC (2006-2011)

SOURCE	RECIPIENT	USD MILLION PER YEAR	SHARE
BILATERAL		**1,528.45**	**65.7%**
Developed Countries		**218.10**	**9.4%**
Norway	Brazil, Haiti, Nicaragua, Peru	131.29	5.6%
Germany	Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Mexico, Panama, Peru	59.99	2.6%
European Union	Anguilla, Antigua and Barbuda, Argentina, Aruba, Bahamas, Barbados, Belize, Bermuda, Bolivia, Brazil, British Virgin Islands, Cayman Islands, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, French Guiana, Grenada, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Martinique, Mexico, Montserrat, Netherlands Antilles, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Saint Barthelemy, Saint Kitts and Nevis, Saint Lucia, Saint Martin, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Turks and Caicos Islands, United States Virgin Islands, Uruguay, Venezuela	11.54	0.5%
Finland	Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama	5.89	0.3%
United States	Bolivia, Colombia, Ecuador, Peru	5.83	0.3%
Japan	Mexico, Brazil, Dominican Republic	3.41	0.1%
United Kingdom	Bolivia, Brazil, Ecuador, Guatemala, Peru	0.14	0.0%
Latin America and the Caribbean Countries[1]		**1,310.35**	**56.3%**

SOURCE	RECIPIENT	USD MILLION PER YEAR	SHARE
Argentina	Argentina	50.35	2.2%
Bolivia	Bolivia	60.20	2.6%
Brazil	Brazil	386.82	16.6%
Chile	Chile	39.04	1.7%
Colombia	Colombia	146.46	6.3%
Costa Rica	Costa Rica, Guatemala, Honduras, Nicaragua	37.17	1.6%
Dominican Republic	Dominican Republic	3.40	0.1%
Ecuador	Ecuador	24.00	1.0%
El Salvador	El Salvador	1.12	0.0%
Guatemala	Guatemala	12.65	0.5%
Honduras	Honduras	104.42	4.5%
Mexico	Mexico	336.53	14.5%
Nicaragua	Nicaragua	16.30	0.7%
Panama	Panama	25.00	1.1%
Paraguay	Paraguay	4.57	0.2%
Peru	Peru	41.75	1.8%
Uruguay	Uruguay	14.02	0.6%
Venezuela	Venezuela	6.56	0.3%
MULTILATERAL		**798.05**	**34.3%**
Traditional		**530.43**	**22.8%**
World Bank Group	Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, Trinidad and Tobago, Venezuela	492.72	21.2%
FAO	Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Haiti, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, Venezuela	18.34	0.8%
IDB	Anguilla, Antigua and Barbuda, Argentina, Aruba, Bahamas, Barbados, Belize, Bermuda, Bolivia, Brazil, British Virgin Islands, Cayman Islands, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, French Guiana, Grenada, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Martinique, Mexico, Montserrat, Netherlands Antilles, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Saint Barthelemy, Saint Kitts and Nevis, Saint Lucia, Saint Martin, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Turks and Caicos Islands, United States Virgin Islands, Uruguay, Venezuela	10.39	0.4%
ITTO	Anguilla, Antigua and Barbuda, Argentina, Aruba, Bahamas, Barbados, Belize, Bermuda, Bolivia, Brazil, British Virgin Islands, Cayman Islands, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, French Guiana, Grenada, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Martinique, Mexico, Montserrat, Netherlands Antilles, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Saint Barthelemy, Saint Kitts and Nevis, Saint Lucia, Saint Martin, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Turks and Caicos Islands, United States Virgin Islands, Uruguay, Venezuela	4.09	0.2%
CABEI	Honduras, Guatemala, El Salvador, Costa Rica, Nicaragua	3.22	0.1%
ICCO	Brazil, Colombia, Costa Rica, Dominican Republic, Ecuador, Peru, Trinidad and Tobago, Venezuela	1.67	0.1%

SOURCE	RECIPIENT	USD MILLION PER YEAR	SHARE
Emerging[2]		**267.63**	**11.5%**
GEF[3]	Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Cuba, Dominican Republic, Ecuador, Guatemala, Haiti, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Uruguay, Venezuela	186.43	8.0%
UNCCD	Bolivia, Chile, Costa Rica, Ecuador, Haiti, Honduras, Jamaica, Nicaragua	36.22	1.6%
AF	Argentina, Belize, Colombia, Ecuador, El Salvador, Honduras, Jamaica, Nicaragua, Paraguay, Peru, Uruguay	13.48	0.6%
SCCF	Mexico, Nicaragua	11.67	0.5%
CDM	Argentina, Bolivia, Brazil, Chile, Colombia, Nicaragua, Paraguay, Peru, Uruguay	10.81	0.5%
UN-REDD	Bolivia, Ecuador, Panama, Paraguay	5.01	0.2%
FCPF	Costa Rica, Mexico	2.33	0.1%
LDCF	Haiti	1.38	0.1%
GFP	Guatemala	0.17	0.0%
CIF	Peru	0.13	0.0%
TOTAL		**2,326.51**	**100.0%**

[1] See Chapter 5 for details; [2] See Chapter 3 for details; [3] Includes UNEP, UNDP, IFAD.

Sources: ABRAF (2011); BMZ (2008, 2010), BNDES (2010, 2012e); CAF (2011); CATIE (2011);CBD (2009); EMBRAPA (2005); EC (2010); FAO (2007b, 2012b); GEF (2010c); GCP (2010); IDB (2012b); IISD (2011); ITTO (2011); MADR (2010); MAGyP (2010); MDIC (2010b), MI (2009, 2010, 2012b),); MFAF (2010); MTOP (2012); NORAD (2012b); PFN (2010); SAPE (2011); STCP (2012); UCJSC (2007); USAID (2010); World Bank (2012a), adapted by the Consultant.

- **Bilateral ODA from Developed Countries in Forestry in LAC**

Between 2006 and 2010, the global identified bilateral ODA from developed countries to forestry activities have reached over USD 600 million per year. Total ODA along this period reached more than USD 3 billion (see Table 8).Norway became the largest forestry ODA provider in 2010, with almost USD 410 million, corresponding to about 42% of the total forestry ODA in that year. Most of Norway contribution was destined to Brazil, in order to create the Amazon Fund.As seen previously, bilateral investment from developed countries in forestry in LAC was in average of USD 218 million per annum between 2006 and 2011, representing 36% of the total. The investments in LAC are seen in more details as follows.

Table 8 – Bilateral Official Development Assistance from Developed Countries to Forestry Activities Worldwide

COUNTRY	USD MILLION						SHARE	CHANGE (2006-2010)
	2006	2007	2008	2009	2010	TOTAL		
Japan	214	379	243	38	172	**1,046**	**34.4%**	-20%
Norway	7	5	31	117	410	**570**	**18.8%**	5862%
Germany	33	42	51	69	87	**282**	**9.3%**	165%
Finland	18	26	62	51	52	**208**	**6.8%**	191%
EU Institutions	36	22	55	32	54	**199**	**6.6%**	50%
Others	138	89	147	147	212	**733**	**24.1%**	54%
TOTAL	**445**	**563**	**589**	**454**	**986**	**3,038**	**100.0%**	**122%**

Source: OECD (2012), adapted by the Consultant.

- *Norway*

Norwegian Agency for Development Cooperation (NORAD)

The Norwegian Agency for Development Cooperation (NORAD) is under the Norwegian Ministry of Foreign Affairs. Its task is to ensure effective foreign aid, with quality assurance and

evaluation. In the case of aid funds that are not administered by NORAD, the agency provides advice on what is required to achieve results, communicate results and contributes to debate on the effects of development assistance. Quality assurance is defined as one of NORAD's five main tasks, but is also an aspect common to all its main tasks (NORAD, 2012b).The selected thematic areas in Norwegian development cooperation are climate change and the environment, energy, macroeconomics and public administration, health and aids, education and research. Climate change and the environment are the main focus of Norwegian development policy and Norway is focusing its cooperation on four areas: (i) Sustainable management of biological diversity and natural resources; (ii) Climate change and access to clean energy; (iii) Management of water resources, water and sanitation; and (iv) Hazardous substances (NORAD, 2012b).

Brazil was the largest recipient of Norwegian forestry development assistance in 2010, receiving 99% of the total investment in LAC. This is due to the massive forestry initiative through the Amazon Fund. Norway funds activities support the Brazilian government's efforts to combat deforestation in the world's largest rainforest area. Norway has planned to pledge to support the Amazon Fund with around USD 1 billion until 2015, if Brazil succeeds in reducing deforestation. The agreement to support the Amazon Fund was signed in 2009 and is in effect until 2015. Norway decides how much funding is to be allocated each year based on the results achieved. The allocations for 2009 and 2010 were USD 117 and 141 million, respectively (NORAD, 2012a). Between 2006 and 2010, NORAD invested more than USD 19 billion in aid programs around the world. From this total, USD 576 million were invested in forestry related projects, and out of this total USD 261 million (45%) were invested in forestry projects in LAC (see Table 9).

Table 9 – Distribution of NORAD Investments in Forestry in LAC (2006-2010)

Countries	Timeframe		Investment (USD Million)		Share
	From	To	Total	Year	
Brazil	2009	2010	257.72	128.86	98.15%
Haiti	2010	2010	1.83	1.83	1.39%
Peru	2009	2010	1.08	0.54	0.41%
Nicaragua	2006	2009	0.24	0.06	0.05%
TOTAL			**260.87**	**131.29**	**100.00%**

Source: NORAD (2012a), adapted by the Consultant.

So far, a total of 13 projects under the Amazon Fund have been approved, with a total value of around USD 121 million. Germany has also joined the Amazon Fund, so Norway is no longer its only supporter. Two projects financed by Norway through UNDP have resulted in plans for sustainable use of forests in the states of Acre, Pará and MatoGrosso. These plans constitute an important platform for Brazil's future work on forestry, including the formulation of measures under the Amazon Fund. Besides Brazil, Norway has invested in other countries in the LAC region, such as Haiti, Peru, and Nicaragua.

- *Germany*

Germany bilateral ODA is rendered by three different governmental institutions: German Bank for Reconstruction (KFW), Ministry for Economic Cooperation and Development of Germany (BMZ), and the German Society for International Cooperation (GIZ).

German Bank for Reconstruction (KFW)

Several projects, financed by the BMU, which GIZ is implementing in LAC region with KFW financial support, are helping LAC countries to protect their natural forests and promote sustainable forest management, to support countries' national climate change mitigation efforts, and to increase protected areas, among others.

Peru, Brazil and Colombia are the top beneficiaries of the KFW financial support, representing 61% and the remaining 39% aid is distributed among 10 other LAC countries. In Peru it has

been implementing the KFW-financed project called “Agro-Environmental Program Ceja de Selva” (PROCEJA), with focus on climate change mitigation, representing about 15% of the total investment in LAC. This project is followed by three major projects in Brazil, on sustainable forestry, establishment of ecological corridors in the Amazon Forest and in the Atlantic Forest, and increase of protected areas, corresponding to 35% of the total (Table 10).

Table 10 – Main KFW Forestry-Related Investments in LAC (2006-2014)

PROJECT TITLE	COUNTRIES	TIMEFRAME		INVESTMENT (USD MILLION)		SHARE
		From	To	Total	Year	
Agro-environmental Program Ceja de Selva (PROCEJA)	Peru	2008	2012	23.02	4.60	15.07%
Establishment of Ecological Corridors in Amazonia and Mata Atlântica	Brazil	2006	2010	21.27	4.25	13.92%
Sustainable Forestry Programme	Brazil	2008	2012	19.50	3.90	12.76%
Forestry as Production Alternative for the Coffee Board Area	Colombia	2007	2014	18.07	2.26	7.39%
Protected Areas Fund – FAP	Brazil	2008	2011	13.00	3.25	10.64%
Others				59.63	12.29	40.22%
TOTAL				**154.49**	**30.56**	**100.00%**

Source: BMZ (2008), adapted by the Consultant.

Countries such as Brazil, Chile and Mexico are increasingly becoming involved in international development cooperation as advisors or donors. More and more of GTZ’s bilateral partnerships are turning into trilateral cooperation arrangements and other donors are also participating in projects and programmes implemented by GIZ, with KFW´s financial support, on BMZ’s behalf within the scope of combined financing arrangements, which facilitates the implementation of projects (KFW, 2008).

Ministry for Economic Cooperation and Development of Germany (BMZ)

The Ministry for Economic Cooperation and Development of Germany (BMZ) develops long-term strategies for bilateral official development cooperation between Germany and its partner countries. These are the foundations for developing shared projects with partner countries and international development organizations in line with the United Nations' Millennium Development Goals, which aim to halve poverty in the world by 2015 and promote sustainable development and forest protection (BMZ, 2012).

BMZ forestry investments in LAC totalled USD 37 million between 2010 and 2014. Its five main projects in Peru, Costa Rica and Brazil represent 84% of the total investment in forestry related projects in LAC (see Table 11).

In October 2009, BMZ initiated a wide-ranging structural reform of its implementing organization, merging the three experienced organizations in the field of international cooperation, the German Development Service (DED), the Agency for Technical Cooperation (GTZ) and InWEnt into GIZ (German Agency for International Cooperation). Since 1 January 2011, GIZ has brought together under one roof the expertise and long-standing experience of these three institutions that have been driving sustainable development worldwide for decades (GIZ, 2010).

Table 11 – Main BMZ Forestry-Related Investments in LAC (2010-2014)

PROJECT TITLE	COUNTRIES	TIMEFRAME		INVESTMENT (USD MILLION)		SHARE
		From	To	Total	Year	
Support of the Development of a National REDD-system in Peru	Peru	2010	2014	8.12	1.62	21.95%
Sustainable Biodiversity Fund	Costa Rica	2010	2010	7.73	7.73	20.89%
Protection of Marine and Costal Biodiversity through Capacity Building and Adaptation to the Impacts of Climate Change	Costa Rica	2010	2014	4.51	0.90	12.19%
Amazon Fund	Brazil	2010	2010	3.87	3.87	10.46%
Facilitation of the Peruvian Tropical Rainforest Programme *"Conservando Juntos"*	Peru	2010	2013	3.87	0.97	10.46%
Others				8.90	3.31	24.05%
TOTAL				**37.00**	**18.40**	**100.00%**

Source: BMZ (2010), adapted by the Consultant.

German Society for International Cooperation (GIZ)

The German Society for International Cooperation (GIZ) is currently operating in a total of 13 countries of the Latin America and the Caribbean region. International cooperation with the region aims to improve environmental protection and the conservation of natural resources across the region. Together with BMZ, the Federal Environment Ministry (BMU) is the major commissioning governmental agency for GIZ in the region, with its tropical forest protection projects (GIZ, 2010).Information on the main forestry related projects financed by GIZ in the LAC countries during the 2006-2010 period is presented in Table 12.

Table 12 – Main GIZ Forestry-Related Investments in LAC (2006-2010)

PROJECT TITLE	COUNTRIES	TIMEFRAME		INVESTMENT (USD MILLION)		SHARE
		From	To	Total	Year	
Programme for Sustainable Rural Development in Peru	Peru	2006	2010	14.16	2.83	25.59%
Promotion of Protected Areas and Sustainable Management	Brazil	2007	2009	11.05	3.68	33.28%
Strengthening Indigenous Organizations in Latin America	Amazon countries	2006	2010	6.18	1.24	11.16%
Regional planning and development in Acre, Amazonas and Pará	Brazil	2008	2010	3.55	1.18	10.69%
Demarcation and Protection of Indigenous Areas	Brazil	2007	2009	3.25	1.08	9.79%
Others				3.90	1.05	9.49%
TOTAL				**42.08**	**11.07**	**100.00%**

Source: BMZ (2010), adapted by the Consultant.

GIZ's work in Latin America as a whole focuses on some priority areas, among them the protection of the region's forests and conservation areas, as well as its species diversity, considered an issue of global significance (GTZ, 2008). GIZ, together with its Latin American partners, is implementing numerous projects and programs for protection and management of forests and natural resources, sustainable land use practices, as well as for climate, forest and biodiversity conservation.

GIZ is devoting its efforts for the protection and sustainable management of forests and biodiversity of protected areas in Amazonia. The institute is supporting the process of negotiating a regional natural resource policy in collaboration with the eight member states of the Amazon Cooperation Treaty Organization (ACTO) in a project of about USD 6.2 million (GTZ, 2008).

Peru is one of GIZ's key partner countries in Latin America. Since 1975, more than 140 projects have been implemented in a number of different sectors. By the end of 2005, BMZ had authorized more than EUR 400 million for technical cooperation with Peru (GIZ, 2010).During the 2006-2010 period, Peru had the second largest investment share, representing about 34% of the total investment in LAC.

- *European Union*

European Commission Development and Cooperation (EuropeAid)

The EuropeAid is a Directorate–General (DG) responsible for designing EU development policies and delivering aid through programmes and projects across the world. It incorporates the former Development and Europeaid DGs (EC, 2012a).

Since January 2007, the European Commission (EC) provides support to Latin American countries through the Development Co-operation Instrument (DCI). The main priorities for cooperation with the region are fostering social cohesion and strengthening regional integration. The development cooperation with Latin America is organized as follows: (i) With the countries, through bilateral cooperation agreements; (ii) With the sub-regions, which are the Central America, the Andean Community and Mercosur; and, (iii) With the region as a whole through regional programmes (EC, 2012b).Main forest related projects financed by EuropeAid over the 2006-2011 period in LAC countries are presented in Table 13.

Table 13 – Main EuropeAid Forestry-Related Investments in LAC (2006-2011)

PROJECT TITLE	COUNTRIES	TIMEFRAME		INVESTMENT (USD MILLION)		SHARE
		From	To	Total	Year	
Promoting the Environmental Dimension of Sustainable Development	Brazil	2006	2011	23.79	3.97	34.36%
Environmental Policy Support Programme	Ecuador	2006	2011	22.10	3.68	31.92%
Strengthening Local Capacities with a View to the Sustainable and Profitable Management of Forests throughout the Amazon	Amazon Countries	2006	2011	13.91	2.32	20.09%
Shared Forest Governance in the Xingu River Region	Brazil	2006	2011	4.37	0.73	6.31%
Forest Management in the Brazilian Amazon	Brazil	2006	2011	3.90	0.65	5.63%
Others				1.17	0.19	1.69%
TOTAL				**69.24**	**11.54**	**100.00%**

Source: EC (2010), adapted by the Consultant.

In the environmental sector, the EU co-financed seven projects of about EUR 10.7 million between 2003 and 2009. These projects helped strengthen local capacities in sustainable and profitable forest management throughout the Amazon, focusing on indigenous forest management and climate change. The project called “Shared forest governance in the Xingu river region” received an EU contribution of EUR 3.36 million between 2006 and 2011, which restored 900 ha of forest in the headwaters using new technologies based on agroforestry systems (EC, 2010).

EuropeAid is supporting forest management in the Brazilian Amazon, with a contribution of EUR 6 million. The programs mainly targeted sustainable development in the Amazon region in Brazil, where most of forest activities are in natural forests. In the State of Pará, the impact of the BR 163 highway has been examined. The project named “Promoting the Environmental Dimension of Sustainable Development”, with a budget of EUR 18.3 million, aims to contribute to protecting Brazilian forests, and to combating poverty in fragile biomes. The project activities started in 2010 (EC, 2010).

The Environmental Policy Support Programme (PRODERENA) in northern Ecuador has an EU contribution of EUR 17 million and aims to strengthen sustainable rural development and the environment; specifically by supporting sustainable management of water resources and by strengthening the capacity of public institutions (national and local) to manage the natural resources of the Amazonian forest. In particular, the project focuses on the development process and social participation of the resident population in three regions of northern Ecuador (Imbabura, Esmeraldas and Carchi). The project is helping to improve coordination between local and central government in the management of natural resources (EC, 2010).

The EU also funds regional program on the environment and tropical forests. The EU Delegation in Paraguay is currently managing an extensive portfolio of thematic projects, including one environment and tropical forest project.

- *Finland*

Finnish Department for International Development Cooperation (FINNIDA)

The Finnish Department for International Development Cooperation (FINNIDA) started the cooperation with LAC in 1979, in Nicaragua. The country is the only long-term partner in the region. Forestry was one of the priority sectors in the 1980s and 1990s; including 12-year regional forestry project called the Regional Forest Program for Central America (PROCAFOR). The objective of this programme was to promote the integration of forestry activities into the rural economy in an ecologically and economically sustainable manner. In Nicaragua, Finland’s cooperation has focused on rural development, health care and supporting local governments.

Even with the end of PROCAFOR project in 2003, Finland has continued to support the forestry sector in Nicaragua through a multi-donor fund the Rural Development Programme (PRORURAL), which has among its priority areas sustainable forestry development, forestry policies and strategies.Main forestry projects financed by FINNIDA in LAC countries over the 2006-2014 period are presented in Table 14.

More recently, support was directed to state institutions working for rural development, and the Nicaraguan National Forestry Institute (INAFOR). A total of EUR 9.7 million was earmarked by Finland for the years 2006 to 2009. This represented about 30% of the initial total funding for the programme. The Ministry of Foreign Affairs decided to continue funding over the 2010–2014 period, and a total of EUR 4.5 million was made available (MFAF, 2010).

In 2009, Finland signed an agreement with the Tropical Agricultural Research and Higher Education Center (CATIE) based in Costa Rica for a regional forestry project called the Forests and Forest Management Project in Central America (FINNFOR). This project is implemented in coordination with an integrated environment and agriculture project, the Mesoamerican Agro-environmental Programme (MAP). The FINNFOR-MAP project started in March 2010, with an objective to overcome obstacles that prevent the forestry sector from achieving its full potential

in promoting socially equitable, economically efficient and environmentally sound sustainable production of forests, goods and services. Finnish funding for the first phase is USD 7.1 million.

Table 14 –FINNIDA Forestry Related Investments in LAC (2006-2014)

Project Title	Countries	Timeframe		Investment (USD Million)		Share
		From	To	Total	Year	
Agriculture and Rural Development Programme (PRORURAL)	Nicaragua	2006	2009	12.1	3.0	46.6%
Forests and Forest Management in Central America MAP-FINNFOR Project	Belize, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica and Panama	2009	2013	7.10	1.42	27.4%
Agriculture and Rural Development Programme (PRORURAL)	Nicaragua	2010	2014	5.9	1.2	22.7%
Capacity building in Forest Management CAPFOR	Costa Rica	2010	2012	0.65	0.22	2.5%
Nicaragua Environmental Sector Development	Nicaragua	2006	2007	0.26	0.13	1.00%
Total				**25.9**	**5.89**	**100.00%**

Source: MFAF (2010), adapted by the Consultant.

There is also an institutional cooperation between CATIE and Finnish Forestry Research Institute (METLA) on capacity building in sustainable forest management and assessment of forest resources, a project of about EUR 650,000 (MFAF, 2010).

- *United States*

United States Agency for International Development (USAID)

USAID was created in 1961. Since then, it has been the main US agency to provide assistance to countries recovering from disaster, helping alleviate poverty, and engaging in democratic reforms. USAID works in over 100 countries to: (i) Promote broadly shared economic prosperity; (ii) Strengthen democracy and good governance; (iii) Improve global health, food security, environmental sustainability and education; (iv) Help societies prevent and recover from conflicts; and provide humanitarian assistance in the wake of natural and man-made disasters (USAID, 2012).

USAID provides assistance in five regions: (i) Sub-Saharan Africa, (ii) Asia; (iii) Latin America and the Caribbean; (iv) Europe and Eurasia; and, (v) Middle East. The major USAID's forestry project under implementation in LAC region is the Initiative for Conservation in the Andean Amazon (ICAA). ICAA is a five-year program to improve stewardship of the Amazon Basin's globally and nationally important biological diversity and environmental services. The project is underway in four countries of the Andean Amazon, Bolivia, Colombia, Ecuador and Peru. The ICAA's strategic framework emphasizes: (i) Capacity-building; (ii) Implementation of policies; and (iii) Leveraging resources for Amazon conservation.

ICAA project includes USD 35 million in support from USAID (average of **USD 5.8 million per year**) and USD 10 million of support by the partners matching funds for the implementation. Through ICAA, USAID funds 20 partner organizations that are organized into four consortia and a Support Unit. Also, the consortia comprising ICAA coordinate actions with the USAID bilateral

programs in the region, as well as with national governments, universities and other non-governmental organizations (NGOs) and networks of organizations in the Amazon (USAID, 2010).

- *Japan*

Japan International Cooperation Agency (JICA)

The Japan International Cooperation Agency (JICA) provides bilateral aid in the form of technical cooperation/assistance, loans and grant aid. The main objective is the promotion of economic development and welfare in developing countries. JICA has been restructured in October 2008. Under the new system, three forms of assistance previously administered by separate agencies-technical cooperation, ODA loans and grant aid, will be seamlessly managed by a single entity. This will enable JICA to provide high quality international cooperation to meet the needs of people living in developing countries.

JICA also adopts the concept of dynamic development, referring to the creation of self-reinforcing virtuous cycles of economic growth and poverty reduction in a constantly changing environment of developing countries. JICA struggles to provide creative, highly effective support toward this end, at times moving swiftly and at times acting from the longer-term perspective as the situation calls for (JICA, 2012).During 2010, Japan invested USD 172 million in ODA towards forestry at world level. Out of this total, JICA contributed with USD 114 million (66%) and JBIC (Japan Bank for International Cooperation) with USD 58 million (34%) (JICA, 2011).

JICA is cooperating in this area of climate change with many South American countries,especially in the Amazon region(JICA, 2011).One of the main projects related to the use of forest resources is the "Sustainable Use of Forest Resources in Estuary Tidal in Amapá", Brazil, with a total budget of USD 3.26 million, as shown in Table 15.

Table 15 – JICA Forestry-Related Investments in LAC (2005-2013)

Project Title	Country	Timeframe		Investment (USD Million)		Share
		From	To	Total	Year	
Project on the Coastal Wetland Conservation in Yucatan Peninsula	Mexico	2008	2010	5.35	1.78	42.72%
Sustainable Use of Forest Resources in Estuary Tidal in Amapá	Brazil	2005	2009	3.26	0.65	26.05%
Sustainable Watershed Management Project in the Upper Area of the Sabana Vegua Dam in the Dominican Republic	Dominican Republic	2006	2009	0.91	0.23	7.28%
Capacity building project in Post-harvesting and Marketing in the Jaíba Region	Brazil	2010	2013	3.00	0.75	23.95%
TOTAL				**12.52**	**3.41**	**100.00%**

Source: JICA (2011), adapted by the Consultant.

JICA provides cooperation on nature conservation in the following three areas: (i) Sustainable use of natural resources; (ii) Conservation of biodiversity; and (iii) Sustainable Forest Management (SFM). In terms of SFM, JICA conducts surveys on the state of forests, develops technology to regenerate forested areas, and works to raise awareness of the importance of forests and their maintenance and management. In addition, JICA is extending cooperation on the conservation of forests, with a view to contributing to the establishment of a system to Reduce Emissions from Deforestation and Forest Degradation (REDD-plus), which has been

advanced by the international community in recent years as part of the measures against climate change.

In addition to these projects, there are other forestry-related projects whose investment value could not be identified. For instance, under "the Carbon Dynamics of Amazonian Forests Project" in Brazil, JICA assists the development of quantitative assessment methods for the reduction of CO_2, which is achieved by preventing the depletion and deterioration of the Amazon rainforest.

Also in Brazil, JICA is providing cooperation to strengthen controls on illegal logging in the Amazon rain forests. JICA is working to build a monitoring system and strengthen the capabilities of counterpart personnel so that the Brazilian Federal Police (PF) and the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA) can monitor illegal logging through satellite images (JICA, 2011).

- *United Kingdom*

Department for International Development of the United Kingdom (DFID)

The DFID have supported country and regional programs to increase access to the basics (clean water, sanitation, health care and education), prevent and tackle conflicts, and climate change. The climate change program offers enhancing low carbon private sector led growth, adaptation, forestry, and strengthening of institutions to implement climate change strategies (DFID, 2011). Only 2 LAC projects related to forestry were supported by the DFID between 2006 and 2011, totalling USD 0.7 million (see Table 16).

In 2008-2009, 140 countries received some form of UK bilateral aid. Between 2011 and 2015, total DFID foreign aid may total more than USD 27 billion. DFID's bilateral aid priority to LAC is oriented to some of its dependent overseas territories located in the Caribbean, in this case St. Helena and Montserrat. Altogether these countries shall receive USD 587 million during this period, or 2% of the DFID's total budget. None of these new investments are oriented towards forestry (DFID, 2011).

Table 16 – DFID Forestry-Related Investments in LAC (2006-2011)

PROJECT TITLE	COUNTRY	TIMEFRAME		INVESTMENT (USD)		SHARE
		FROM	TO	TOTAL	YEAR	
Tropical Forests in Poverty Alleviation: From Household Data to Global-Comparative Analysis	Peru, Bolivia, Brazil, Ecuador, Guatemala	2008	2010	0.16	0.05	22.85%
Improving Livelihoods of Poor Small Farmers in Brazil	Brazil	2006	2011	0.54	0.09	77.15%
TOTAL				**0.70**	**0.14**	**100.00%**

Source: DFID (2011), adapted by the Consultant.

- **Multilateral ODA from Traditional Sources in Forestry in LAC**

The traditional multilateral agencies providing official development assistance are agencies of the United Nations (UN) acting at regional and global level. Among the global agencies are FAO, ITTO, UNEP, UNDP, World Bank, and also agencies acting exclusively in LAC countries (CABEI, IDB and others).Between 2006 and 2011, the global identified multilateral ODA support forestry activities in LAC countries have reached around USD 780 million per year. Details on the relevant organizations coverage are presented in the sequence.

- *World Bank Group*

The World Bank, established in 1941, is an important source of financial and technical assistance to developing countries around the world. Its mission is to combat poverty and to help people help themselves and their environment by providing resources, sharing knowledge, building capacity and forging partnerships in the public and private sectors.

It is made up of two unique development institutions owned by 187 member countries: the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA). Between 2005 and 2015, the World Bank Group carried out 19 projects related to forestry in LAC countries, which totalled together USD 2.7 billion. Its five main projects represented 95% of the total forestry-related projects (see Table 17).

Table 17 – Main World Bank Group Forestry-Related Investments in LAC (2005-2015)

PROJECT TITLE	COUNTRY	TIMEFRAME		INVESTMENT (USD MILLION)		
		From	To	Total	Year	SHARE
First Programmatic Development Policy Loan for Sustainable Environmental Management	Brazil	2009	2015	1,300.0	185.7	48.1%
Mexico - Climate Change Development Policy Loan	Mexico	2008	2011	501.3	125.3	18.5%
MEDEC Low-Carbon DPL Loan	Mexico	2010	2015	401.0	66.8	14.8%
Mexico Environmental Sustainability Development Policy Loan	Mexico	2008	2011	300.8	75.2	11.1%
AR Sustainable Natural Resources Management (formerly Sustainable Forestry Development)	Argentina	2008	2012	60.0	12.0	2.2%
Others				139.2	27.7	5.2%
TOTAL				**2,702.2**	**492.7**	**100.0%**

Source: World Bank (2012d), adapted by the Consultant.

The World Bank provides low-interest loans, interest-free credits and grants to developing countries for a wide array of purposes that include investments in education, health, public administration, infrastructure, financial and private sector development, agriculture and environmental and natural resource management.

To ensure that countries continue to have access to the best global expertise and cutting-edge knowledge, the World Bank Group is revising its programs to assist the poor, as well as its range of financing options, to meet pressing development priorities (World Bank, 2012c).

For the World Bank, addressing climate change is intrinsically linked to its mission of poverty reduction and the support of sustainable development in its client countries. Carbon finance is part of a larger response to leverage existing development finance, and complements other financial instruments focused on mitigating and adapting to the impacts of climate change.

The role of the World Bank has been to catalyse a global carbon market that reduces the cost of achieving GHG reductions, supports sustainable development, and reaches and benefits the poorer communities of the developing world (World Bank, 2010c).

- *Food and Agriculture Organization of the United Nations (FAO)*

The Food and Agriculture Organization of the United Nations (FAO), established in 1945, has as mandate to raise levels of nutrition, improve agricultural productivity, better the lives of rural populations and contribute to the growth of the world economy. FAO helps the UN member

countries in developing agricultural policy, supporting planning, drafting effective legislation and creating national strategies to achieve rural development and hunger alleviation goals.

FAO investments in forestry in LAC between 2006 and 2016 totalled almost USD 75 million distributed in 43 forestry-related projects. Its five main projects represent 49% of the total, which are implemented in Brazil, Bolivia and Colombia (Table 18).

Table 18 – Main FAO Forestry-Related Investments in LAC (2006-2016)

Project Title	Countries	Timeframe		Investment (USD Million)		Share
		From	To	Total	Year	
Strengthening National Policy and Knowledge Frameworks in Support of Sustainable Management of Brazil`s Forest Resources (FSP)	Brazil	2011	2016	8.85	1.48	11.85%
Integral Management of Natural Resources in the Tropic of Cochabamba and Yungas de La Paz	Bolivia	2006	2009	8.08	2.02	10.82%
Management of Forests, Support to Sustainable Production and Strengthening of Civil Society in the Brazilian Amazon	Brazil	2009	2013	7.97	1.59	10.67%
Municipal Pact for Reducing Deforestation - Sao Felix do Xingu Municipality (Para State)	Brazil	2011	2013	6.43	2.14	8.61%
Ceibas River Basin Project: a Strategic, Collective and Participatory Partnership for its Protection and Sustainable Production	Colombia	2007	2012	5.09	0.85	6.81%
Others				38.28	10.22	51.24%
TOTAL				**74.70**	**18.34**	**100.00%**

Source: FAO (2012c); adapted by the Consultant.

FAO mobilizes and manages millions of dollars provided by member countries and other sources to assure the projects achieve their goals. FAO is composed of seven departments: Agriculture; Economic and Social Development; Fisheries; Forestry; Corporate Services, Human Resources and Finance; Natural Resources Management and Environment; and Technical Cooperation (FAO, 2012b).Inter-American Development Bank (IDB)

The IDB, established in 1959, supports Latin America and the Caribbean countries to reduce poverty and inequality, promoting development in a sustainable, climate-friendly manner. IDB is among the largest sources of development financing for Latin America and the Caribbean countries, seeking to increase its development impact in the region.

Between 2006 and 2011, the IDB carried out 21 projects related to forestry, which together totalled more than USD 27 million; the five main projects represented almost 90% of it, and the two most relevant projects represented more than 70% of financing (see Table 19).

These figures should be interpreted judiciously because forestry sector activities are not easily identifiable in the Bank statistics. Forestry activities are implemented under a number of different budget items within various types of projects; consequently, forestry-related activities may not be classified under forestry heading.

Besides loans, the Bank also provides grants, technical assistance and do research. There are 48 shareholders member countries, including 26 Latin American and Caribbean borrowing members, who have a majority ownership of the IDB. Its Fund for Special Operations (FSO) provides concessional financing to its most vulnerable member countries. IDB's institutional

strategy encompasses four sector priorities: (i) Social policy; (ii) Institutions for growth and social welfare; (iii) Competitive regional and global international integration; and (iv) Protection of the environment (IDB, 2012a).

Table 19 – Main IDB Forestry-Related Investments in LAC (2006-2011)

Project Title	Countries	Timeframe		Investment (USD Million)		Share
		From	To	Total	Year	
Mechanism for Voluntary Mitigation of Greenhouse Gas Emissions in Colombia	Colombia	2011	2012	10.47	5.24	38.07%
Forest Conservation through Certification, Commercialization and Strengthening of SFM	LAC	2010	2012	9.00	3.00	32.73%
Regional Forest Health System for the Southern Cone Countries	LAC	2010	2012	0.95	0.32	3.45%
Developing Capacities in Implementing REDD+	Guyana	2010	2012	0.85	0.28	3.09%
Forest Vocation Land Policy Implementation in Brazil	Brazil	2008	2010	0.51	0.17	1.85%
Others				5.72	1.38	20.80%
TOTAL				**27.5**	**10.39**	**100.00%**

Source: IDB (2012b).

Since its establishment, the IDB has financed a large number of forestry-related projects. In the 1960s, financing were mostly directed towards industrialization, timber plantations and training. In the 1970s and early 1980s, the focus shifted to social and community forestry.

In the late 1980s and the 1990s, soil and water protection, and biodiversity conservation, gained relevance.The IDB's financial commitments to forestry started to increase in the late 1980s, reaching a peak in 1992 when the IDB investment level totalled USD 130 million. Towards the end of the 1990s, investments dropped to USD 20 to 40 million (IDB, 2002b).

- *Central American Bank for Economic Integration (CABEI)*

The Central American Bank for Economic Integration (CABEI), established in 1960, is a multilateral bank whose mission is to promote economic integration and balanced economic and social development of the founding member countries (Guatemala, Honduras, El Salvador, Nicaragua and Costa Rica). Its headquarters is located in Tegucigalpa, Honduras, and has regional offices in each member country (BCIE, 2012).

On December 2011, the Governments of Spain and Honduras formally launched a project in Honduras to protect the Emerald Hummingbird habitat, an endangered species and endemic to the country. The project, titled "Sustainable Management of Investments and Services for the Control and Mitigation of the Environmental Impact of the San Lorenzo-Olanchito Highway on the Valle del Aguán Very Dry Tropical Forest", is supported by a debt-to-nature conversion programme managed by CABEI. It aims to prevent and/or mitigate the effects that the highway has had on the forest, which is the principal habitat for the endangered emerald hummingbird, as well as the impacts of other activities, such as pineapple plantations and cattle ranching.

The USD 2 million devoted to the project is part of a CABEI-managed debt-to-nature conversion programme. The project has implemented an environmental services payment programme for the 19,993-hectare humming bird refuge, operated through a trust, in which 27 local land

owners involved in the refuge participate. The CABEI estimates that the project will have a direct social impact on 93,000 inhabitants in the two nearby municipalities of Olanchito and Arena (IISD, 2011).

The most important project under the CABEI is the Central American Markets for Biodiversity Project (CAMBio) which promotes biodiversity-friendly investments in Central America, started in 2008. CAMBIO is financed by the GEF, administered by the United Nations Program for Development (UNDP) and executed by CABEI. The total project funding by CABEI is USD 17.75 million (see table 20).

Table 20 – Main CABEI Forestry-Related Investments in LAC (2008-2012)

PROJECT TITLE	COUNTRIES	TIMEFRAME		INVESTMENT (USD MILLION)		SHARE
		From	To	Total	Year	
CAMBio (Central American Markets for Biodiversity)	Honduras, Guatemala, El Salvador, Costa Rica, Nicaragua	2007	2014	17.75	2.22	94.4%
Sustainable Management of Investments and Services for the Control and Mitigation of the Environmental Impact of the San Lorenzo-Olanchito Highway on the Valle del Aguán Very Dry Tropical Forest	Honduras	2011	2012	2.00	1.00	5.6%
				19.75	**3.22**	**100.00%**

Source: IISD (2011), CAMBio (2010), adapted by the Consultant

- *International Tropical Timber Organization (ITTO)*

The ITTO is an intergovernmental organization, established in 1986, promoting the conservation and sustainable management, use and trade of tropical forest resources. Its 61 members represent about 80% of the world's tropical forests and 90% of the global tropical timber trade.

ITTO develops internationally agreed policy documents to promote sustainable forest management and forest conservation and assists tropical member countries to adapt such policies to local circumstances and to implement them in the field through governmental projects.

In addition, ITTO collects, analyses and disseminates data on the production and trade of tropical timber and funds a range of projects and other action aimed at developing industries at both community and industrial scales (ITTO, 2012).

ITTO investments in forestry in LAC between 2006 and 2011 totalled more than USD 17 million (average of USD 4.1 million per annum) allocated in 20 different projects. Its five main projects represented 66% of the total forestry-related projects (Table 21).

Table 21 – Main ITTO Forestry-Related Investments in LAC (2006-2012)

Project Title	Countries	Timeframe		Investment (USD Million)		Share
		From	To	Total	Year	
Monitoring Deforestation, Logging and Land Use Change in the Pan Amazonian Forest - PANAMAZON II	Brazil, Bolivia, Colombia, Ecuador, Guyana, Peru, Suriname, Venezuela	2009	2012	8.05	2.01	49.19%
Sustainable Model for the Brazilian Wood Flooring Production Chain (Brazil)	Brazil	2006	2012	0.82	0.12	2.87%
Institutional Capacity-Building to Improve Forest Law Enforcement and Governance in Guatemala	Guatemala	2010	2012	0.80	0.27	6.55%
Integrated Fire Management in Rural Communities of Guatemala: Establishment of Pilot Sites for the Implementation of Sustainable Integrated Fire Management Practices	Guatemala	2010	2012	0.80	0.27	6.51%
Promoting the Rehabilitation, Management and Sustainable Use of Tropical Bamboo Forests in the North-Western Region of Peru	Peru	2006	2012	0.79	0.11	2.75%
Others				5.90	1.31	32.12%
TOTAL				**17.17**	**4.09**	**100.00%**

Source: ITTO (2011b), adapted by the Consultant.

- *International Cocoa Organization (ICCO)*

The ICCO is an inter-governmental organization located in London, established in 1973 to put into effect the 1st International Cocoa Agreement. The 6th International Cocoa Agreement was negotiated in Geneva in 2001 and came into force in October 2003. ICCO is composed of both Cocoa producing and consuming countries. ICCO Member countries represent almost 85% of world Cocoa production and more than 60% of world Cocoa consumption. All Members are represented in the International Cocoa Council, the highest governing body of the ICCO (ICCO, 2012b).

The mandate of the ICCO is to work towards a sustainable world Cocoa economy. The concept of sustainability encompasses social, economic and environmental dimensions in both production and consumption. This includes work on customs tariffs on cocoa bean imports, cocoa semi-products and chocolate; (indirect) taxes related to cocoa consumption and processing; production costs in different countries and regions; market information for cocoa farmers; and price risk management for farmers through co-operatives (ICCO, 2012b).

ICCO is currently developing a project called the "Development of sustainable cocoa agro-forestry systems through multiple land use: the Cacao cabruca model". It has a total budget of USD 3.5 million (see Table 22), and is implemented by the Executive Committee of the Cocoa Plantation Plan of Brazil (CEPLAC), a Brazilian governmental organization dedicated to the cocoa cultivation. The main objective of the project is to establish a sustainable cocoa cultivation system that enables farmers to increase and maintain farm productivity at levels

which are economically viable, ecologically sound and in tune with the cultural practices of the people.

Table 22 – Main ICCO Forestry-Related Investments in LAC (2001-2012)

PROJECT TITLE	COUNTRY	TIMEFRAME		INVESTMENT (USD MILLION)		Share
		From	To	Total	Year	
Cocoa productivity and quality improvement: a participatory approach	Brazil, Costa Rica, Ecuador, Peru, Trinidad and Tobago, Venezuela	2004	2009	5.3	0.9	53%
Development of sustainable cocoa agro-forestry systems through multiple land use: the cacau cabruca model.	Brazil, Colombia, Dominican Republic, Ecuador, Peru, Venezuela	2007	2012	3.5	0.6	35%
Study the chemical, physical and organoleptic parameters to establish the difference between fine and bulk cocoa	Ecuador, Trinidad and Tobago, Venezuela	2001	2006	1.2	0.2	12%
Total				**10.0**	**1.7**	**100%**

Source: ICCO (2012a), adapted by the Consultant.

- *International Fund for Agricultural Development (IFAD)*

The IFAD, a specialized agency of the United Nations, was established as an international financial institution in 1977 with the objective to finance agricultural development projects primarily for food production and to eradicate rural poverty in developing countries.

Seventy-five per cent of the world's poorest people live in rural areas and depend on agriculture and related activities for their livelihoods. IFAD focuses on country-specific solutions, increasing rural poor peoples' access to financial services, transparent and competitive markets for agricultural inputs and produce, improved agricultural technologies and effective production services, and other natural resources, especially securing access to land and water, and improved natural resource management and conservation practices. IFAD also makes available opportunities for rural off-farm employment and enterprise development, and supports local and national policy and programming processes (IFAD, 2012).

IFAD works with governments to develop and finance projects that enable rural poor people to overcome poverty themselves through low-interest loans and grants. Since its inception in 1978, IFAD has invested USD 12.9 billion in 892 projects and programs, benefitting some 405 million poor rural people.

Governments and other financing sources in recipient countries, including project participants, contributed with USD 11.6 billion, and multilateral, bilateral and other donors provided approximately USD 9.2 billion in co-financing. This represents a total investment of about USD 20.8 billion (IFAD, 2012). IFAD investments in forestry in LAC are carried out through the GEF (see Chapter 3). They totalled USD 88.8 million between 2008 and 2012, as shown in Table 23.

Table 23 – Main IFAD Forestry-Related Investments in LAC (2008-2012)*

PROJECT TITLE	COUNTRY	TIMEFRAME		INVESTMENT (USD MILLION)		
		From	To	Total	Year	SHARE
Promotion of Sustainable and Climate-Compatible Rural Development in Lara and Falcon States	Venezuela	2010	2012	25.6	8.5	28.8%
SFM Mitigating Climate Change through Sustainable Forest Management and Capacity Building in the Southern States of Mexico	Mexico	2010	2012	19.3	6.4	21.7%
SFM Sustainable Management of Protected Areas and Forests of the Northern Highlands of Peru	Peru	2009	2012	15.5	3.9	17.4%
Sustainable and Climate-friendly Development in Veraguas Province – Proyecto Participa	Panama	2010	2012	14.3	4.8	16.1%
SFM Sustainable Management of Biodiversity and Water Resources in the Ibarra-San Lorenzo Corridor	Ecuador	2008	2012	14.2	2.8	16.0%
TOTAL				**88.8**	**26.4**	**100.0%**

* Included in the GEF investments (see Chapter 3).
Source: GEF (2012a), adapted by the Consultant.

- *United Nations Development Programme (UNDP)*

The UNDP is an UN organization advocating for change and connecting countries to knowledge, experience and resources to help people build a better life. UNDP is operating in 177 countries and territories, working with governments and communities in developing countries to help them secure the environmental conditions crucial to reducing poverty and achieving the Millennium Development Goals.

Its primary focus is on climate change, biodiversity, energy, water, drylands, chemicals and ozone. UNDP helps build its partners' capacity to integrate environment into development strategies, build partnerships, secure resources, and implement programs in the transformation of their societies to sustainable, low-carbon, climate-resilient paths of development (UNDP, 2012a).

Biodiversity projects are outstanding in the UNDP's portfolio, with 177 projects under implementation, mainly funded by GEF, totalling USD 533 million directly administered by UNDP, including funds committed by other financiers, this value amounts to USD 1.879 billion. In addition, UNDP is currently preparing 120 GEF projects, totalling USD 350 million in funds administered by UNDP and USD 1 billion in co-financing (UNDP, 2012d).

A total of USD 12.8 billion has been invested in sustainable development priorities since 1991, by GEF and countries, and 319 projects were implemented in LAC. Between 2007 and 2012, the UNDP invested USD 165 million in 11 forestry-related projects in LAC (Table 24), through the GEF.

Table 24 – Main UNDP Forestry-Related Investments in LAC (2007-2012)*

PROJECT TITLE	COUNTRY	TIMEFRAME		INVESTMENT (USD MILLION)		SHARE
		From	To	Total	Year	
Building a Comprehensive National Protected Areas System: A Financial and Operational Framework	Chile	2007	2008	38.9	19.5	23.6%
SFM Catalyzing the Contribution of Indigenous Lands to the Conservation of Brazil's Forest Ecosystems	Brazil	2007	2009	37.5	12.5	22.7%
SFM Transforming Management of Biodiversity-rich Community Production Forests through Building National Capacities for Market-based Instruments - under the Sustainable Forest Management Program	Mexico	2008	2010	25.2	8.4	15.3%
SFM Biodiversity Conservation through Sustainable Forest Management by Local Communities	Bolivia	2009	2012	16.7	4.2	10.1%
Enhancing the Prevention, Control and Management of Invasive Alien Species in Vulnerable Ecosystems	Cuba	2009	2012	15.7	3.9	9.5%
Others				31.1	12.0	18.8%
TOTAL				**165.0**	**60.4**	**100.0%**

* Included in the GEF investments (see Chapter 3).
Source: GEF (2012b), adapted by the Consultant.

- *United Nations Environment Programme (UNEP)*

The UNEP, established in 1972, acts as a catalyst and facilitator to promote sustainable development of the global environment, working with a wide range of partners, including UN agencies, international organizations, national governments, NGOs, the private sector and civil society.

UNEP work encompasses: (i) Assessing global, regional and national environmental conditions and trends; (ii) Developing international and national environmental instruments; (iii) Strengthening institutions for environmental management; (iv) Facilitating knowledge and technology transfer for sustainable development; (v) Encouraging new partnerships within civil society and the private sector (UNEP, 2012). Between 2009 and 2012, UNEP invested USD 16 million in one forestry-related project in LAC through the GEF (see Chapter 3 for details). Table 25 presents information on UNEP projects.

Table 25 – Main UNEP Forestry-Related Investments in LAC (2009-2012)*

PROJECT TITLE	COUNTRY	TIMEFRAME		INVESTMENT (USD MILLION)		
		From	To	Total	Year	SHARE
Integrating Trade-offs between Supply of Ecosystem Services and Land use Options into Poverty Alleviation Efforts and Development Planning	Mexico	2009	2012	16.4	4.1	9.9%
TOTAL				**16.4**	**4.1**	**9.9%**

* Included in the GEF investments (see Chapter 3)
Source: GEF (2012b), adapted by the Consultant.

2 – GAPS AND OPPORTUNITIES FOR FOREST RELATED FINANCING

The gaps and opportunities for the private and public sectors related to forest financing in Latin America and the Caribbean are discussed in this chapter. Are presented the estimated financing needs for Sustainable Forest Management (SFM), and examined the main public and private forestry financing options available for Latin America and the Caribbean.

2.1 – FINANCING DEMAND FOR SUSTAINABLE FOREST MANAGEMENT

2.1.1 - Global Financial Needs

According to PROFOR (2008), estimating financing needs for implementing SFM is difficult due to variation in local conditions and other factors. It is especially hard estimating, for example, financing needs for conserving biodiversity and to address land degradation issues. The problem involves three main aspects:

i. Estimating opportunity costs of preventing deforestation or forest degradation or conserving forest environmental services;
ii. Investment needs to manage existing forests sustainably and to create new forests through planting for production purposes or for restoration of degraded forests and lands;
iii. Upstream or complementary investment in capacity building, information systems, research, technology transfer, development of financing mechanisms and their promotion, and other development costs.

The total financial requirement for the upstream forests and SFM worldwide was estimated to be USD 31 billion per year (UNCED, 1992). This estimate was revised in 1996 and reached USD 33 billion per year. Those figures have been criticized for not having considered compensation for deforestation and forest degradation. Thus, adding the related disinvestments, the total net required financing should amount to a total of USD 69 billion per year in 2006 (UNFF, 2006b).

The average finance required for reducing emissions from the forest sector by 50% between 2005 and 2030 would be around USD17-33 billion per year if forests are included in global carbon trading (Eliasch Review, 2008). Thus, in order to totally cut emissions from the forest sector, about USD 50 billion per year would be needed worldwide to reduce in 100% the emissions from the forest sector between 2005 and 2030.

Annual investment in the order of USD 40 billion is needed to both cut global deforestation by 50% by 2030 and to increase reforestation and afforestation in 140% by 2050, relative to business as usual. Investment is needed both in up-front, for capacity building and preparatory work, and on an on-going basis for implementation, which entails compensation for opportunity costs and the costs of forest protection (UNEP, 2011b). Therefore, annual investments in the order of USD 80 billion would be needed to cut global deforestation in 100% by 2030.

Investment at this scale is unlikely to come from public sources or governments alone. Thus effective investment from private sector investors is essential, including financial institutions and different kinds of financial intermediaries, particularly for implementation activities. This will depend on making the protection and enhancement of natural forests, and the creation of new forests, a competitive investment opportunity (UNEP, 2011b).

2.1.2 – LAC Financial Needs

In 2010, the total forest area of LAC was 956 million hectares, of which almost 71% were natural unmanaged forests, that means they do not generate revenues or receive investments of any kind (see Table 26).

Table 26 – Main Forest Types in LAC

Forest Type	Area (1,000 hectares)	Share
Planted Forests for Non-Wood Products	16,860	1.8%
Planted Forests for Wood Products	18,154	1.9%
Natural Forests under Management	113,897	11.9%
Natural Forests under Conservation	125,572	13.1%
Natural Forests Unmanaged	681,104	71.3%
Total	**955,586**	**100.0%**

Source: FAO (2010f, 2012d), adapted by the Consultant.

There are four types of forests that generate products and benefits, and thus receive investments: planted for non-wood products, planted for wood products, natural for management and natural for conservation. The natural unmanaged forest area, representing 71% of the total forest area, is most probably endangered.

In general, forests are logged because of the economic benefits. But even if they do not generate benefits, the forests can be logged because land has a price, and alternative land use generate revenues for landowners. This is called opportunity cost.

High opportunity costs are commonly associated with high deforestation pressures. If the forests offer no economic opportunities, these lands are converted to other uses of higher economic value, such as cattle ranching or agriculture. Opportunity cost estimates may help policy makers identify and develop appropriate responses to deforestation. Thus, reducing deforestation and preventing land use changes means forgoing these benefits. The costs of the forgone benefits, net of any products and benefits that conserved forest generates, known as opportunity costs, can be the single most important category of costs a country would incur while reducing its deforestation rate (World Bank, 2011b).

The REDD, expected to start operation in 2013, will benefit a wide range of land users, anyone who has land-based activities in rural regions. The REDD funds will go through national governments, so countries will need to prioritize programs and share the benefits. To facilitate the process of developing a national REDD strategy, it is necessary to identify the costs of participating in REDD programs at a national level, by focusing on the analysis of opportunity costs. Estimating opportunity costs can, therefore, provide important information to the process of developing and implementing effective and equitable REDD strategies (World Bank, 2011c).

One alternative to estimate financial resources needed for SFM is to consider opportunity costs for the forestlands. Taking, for instance, the gross opportunity cost for agriculture land in one of the most active deforestation frontiers in the Amazon, the region of Alta Floresta, State of Mato Grosso, Brazil, of USD 103/hectare/year (AGRAFNP, 2011) and assuming that: (i) This would be the minimum financing demand from landowners not to convert their forest land into agriculture, and; (ii) The total forest land in LAC of almost 956 million hectares (FAO, 2010a); the yearly gross forest financing demand in the region would be of USD 98 billion.

This gross financial need must be subtracted from the two main existing financing tools for forests: the trade of basic forest products, and current investments in the sustainable forest management, which occur in order to allow the forests to produce tradable products. By subtracting the basic forest products trade estimated value (USD 37 billion) and the investments in sustainable forest management (USD 36 billion), the financing gap for SFM in LAC would theoretically reach around USD 25 billion per year in 2010 (see Table 27).

Table 27 – Estimated Financing Gap for Sustainable Forest Management in Latin America and the Caribbean (2010)

ITEM	USD MILLION
GROSS OPPORTUNITY COST	**-98,289**
BASIC FOREST PRODUCTS TRADE	**37,214**
Wood Forest Products	**15,211**
Non-Wood Forest Products	**22,003**
SUSTAINABLE FOREST MANAGEMENT INVESTMENTS	**35,859**
Natural Forests	**3,534**
Under Management	2,278
Under Conservation	1,256
Planted Forests	**32,325**
Wood Forest Products	13,397
Non-Wood Forest Products	18,928
FINANCING GAP	**-25,216**

Source: AGRAFNP (2011); FAO (2010f, 2012d), STCP (2012), adapted by the Consultant.

The basic products traded are wood (e.g. fuelwood, pulpwood, sawlogs and veneer logs) and non-wood (e.g. fruits, nuts, resins and others) forest products. Existing investments are in maintenance, expansion and production of natural forests under sustainable management, natural forests under conservation, and of planted forests for wood and non-wood purposes. This USD 25 billion gap occurs because 71% of the forest area in LAC remains unmanaged. These figures show that international funding to support sustainable forest in the LAC region is relatively small compared to the total needs.

In principle, if the protection of LAC forests will generate global benefits, all countries will have to take a much greater financial responsibility to effectively promote forest protection and sustainability in Latin America and Caribbean. This gap should be financed by the public and the private sector through support policies and cooperation to develop appropriate financial mechanisms. The public sector has to work together with the private sector towards the best business financing opportunities. The creation of appropriate mechanisms to attract private financing is the key for success. This approach would generate the best cost-benefit for the scarce public resources available.

2.2 – MAIN FORESTRY RELATED ACTIVITIES AND FINANCING

The main identified forestry related activities currently financed in Latin America and Caribbean countries are: (i) Biodiversity; (ii) Capacity Building; (iii) Climate Change; (iv) Ecotourism; (v) Forest Landscape Restoration; (vi) Governance; (vii) Natural Forest Conservation; (viii) Natural Forest Sustainable Management; (ix) Payment for Environmental Services; (x) Planted Forests; (xi) Sustainable Development; and, (xii) Sustainable Land Management.

Table 28 presents, based on available information, the total main forestry investments in LAC by area, as defined in the study TORs. The value reached almost USD 5.1 billion per year between 2006 and 2011. These identified sources include both public and private investment sources.

Table 28 – Main Identified Forestry Financing Areas in LAC (2006-2011)

Project Type	USD Million per Year			Share		
	Public	Private	Total	Public	Private	Total
Biodiversity	36	-	**36**	1.5%	-	**0.7%**
Capacity Building	208	1	**209**	8.9%	0.0%	**4.1%**
Climate Change	101	-	**101**	4.3%	-	**2.0%**
Ecotourism	1	-	**1**	0.1%	-	**0.0%**
Forest and Landscape Restoration	157	-	**157**	6.7%	-	**3.1%**
Governance	174	-	**174**	7.5%	-	**3.4%**
Natural Forests Conservation	196	43	**239**	8.4%	1.6%	**4.7%**
Natural Forests Sustainable Management	302	15	**316**	13.0%	0.5%	**6.2%**
Payment for Environmental Services	151	17	**169**	6.5%	0.6%	**3.3%**
Planted Forests for Non-Wood Purposes	88	233	**320**	3.8%	8.4%	**6.3%**
Planted Forests for Wood Purposes	488	2,452	**2,940**	21.0%	88.8%	**57.8%**
Sustainable Development	118	1	**119**	5.1%	0.0%	**2.3%**
Sustainable Land Management	307	-	**307**	13.2%	-	**6.0%**
TOTAL	**2,327**	**2,761**	**5,088**	**100.0%**	**100.0%**	**100.0%**

Sources: Arauco (2010); BSC (2012); BMZ (2008, 2010), BNDES (2010); CAF (2011); CI (2010); EC (2010); Eldorado (2012); FAO (2012c); FAS (2009); Fibria (2011); GEF (2010c); Helvetas (2012); IDB (2012b); IISD (2011); ITTO (2011b); MI (2009, 2010); ; NORAD (2012c); Petrobras (2012); STCP (2012); Suzano (2012); TNC (2007); USAID (2008, 2011); Vale (2012a, b); World Bank (2012c), adapted by the Consultant.

As can be observed, the largest identified investments in forestry in LAC region were related to forest plantations for wood purposes (almost 58% of the total), mostly Eucalypt and Pine plantations for pulp and wood panel production. The investments in forest plantations are mainly made by the private sector, and reached almost USD 2.7 billion per year in the period (wood and non-wood plantations).Public institutions (bilateral and multilateral) invested together an average of more than USD 2.3 billion per year in LAC between 2006 and 2011. Most public investments are related to Planted Forests for Wood Purposes (21%), Sustainable Land Management (13%), Natural Forests Sustainable Management (13%), Capacity Building (9%) and Natural Forests Conservation (8%).

It is difficult to draw a line between two or more financing areas in forestry. A SFM project can be classified as natural forest conservation, but it also generally encompasses other areas, such as capacity building or payment for environmental services. The adopted classification was based on the main project component.Other related issues to forestry are considered and covered by these main forestry financing options. It includes forest law enforcement and governance processes, improving regulations, technology transfer, small and medium enterprises, water, agriculture, food, energy, soil, transportation and mining.Details on the main forestry financing areas for LAC are examined in more details in the following sections. The objective is to assess options and identify opportunities for forest financing.

2.2.1 – Biodiversity

According to the Convention on Biological Diversity (CBD), biological diversity, or biodiversity, is defined as the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part (CBD, 2010).

Forests are among the terrestrial ecosystems, which currently occupy approximately 30% of the Earth's land surface. Forests are estimated to contain more than half of terrestrial animal and plant species, the great majority of them in the tropics. However, most ecosystems are in decline and the rate of species extinction appears to be accelerating (CBD, 2010). According to UNSG (2012), the target aimed "to achieve by 2010 a significant reduction of the current rate of biodiversity loss", by the parties to the CBD in 2002, has not been met.

The species diversity within ecosystems is a key to the provision of Ecosystem Services (ES) and it is also important to maintain the biodiversity of its natural capital. In the face of the imminent effects of climate change it will be vital to maintain biologically diverse ecosystems to ensure the reliable provision of ecosystem services from the world's stocks of natural capital (GCP, 2010).

- **Identified Investments**

The majority of investments in biodiversity are public. Within the LAC, the Amazon region is the largest tropical rainforest on earth, with the world's richest biodiversity. These resources are threatened by the extensive conversion of land use, unsustainable exploitation of minerals, oil, and logging. The region's rich biodiversity faces the great challenge of combining poverty alleviation and economic growth with sustainable use and conservation of biodiversity (ETFRN, 2008).

A total of 15 projects related to biodiversity, all public, were identified by the consultant for the period 2006-2011. The total investment in the period was USD 131 million, or an average of USD 36 million per year. The Global Environmental Facility (GEF) is the main public institution funding biodiversity-related projects.

Table 29 – Main Identified Investments in Forestry-Related Biodiversity in LAC (2006-2011)

Investor	Sector	Project Title	Countries		Timeframe		Investment (USD Million)		Share
			Investor	Recipient	From	To	Total	Year	
GEF	Public	Rural Corridors and Biodiversity Conservation	United Nations	Argentina	2009	2012	22.3	5.6	17%
World Bank Group	Public	National Biodiversity Mainstreaming and Institutional Consolidation Project	United Nations	Brazil	2008	2012	22.0	4.4	17%
GEF	Public	Mainstreaming Biodiversity in Palm Cropping in Colombia with an Ecosystem Approach	United Nations	Colombia	2010	2012	19.7	6.6	15%
CABEI	Public	CAMBio (Mercados Centro Americanos para la Biodiversidad)	United Nations	Belize	2007	2014	17.8	2.2	14%
GEF	Public	SFM Biodiversity Conservation through Sustainable Forest Management by Local Communities	United Nations	Bolivia	2009	2012	16.7	4.2	13%
Others							32.3	13.1	25%
Total							**130.7**	**36.0**	**100%**

Sources: BCIE (2012); BMZ (2008, 2010), FAO (2012c); GEF (2010c); World Bank (2012c), adapted by the Consultant.

The largest biodiversity project identified in Latin America and the Caribbean is the "Rural Corridors and Biodiversity Conservation", financed through GEF in Argentina between 2009 and 2012, with a total value of USD 22.3 million (GEF, 2010c). The objective of this project is to increase protection of vulnerable natural areas and conserve biological diversity through the establishment, strengthening and operational start-up of protected areas, strengthening of the

Federal System of Protected Areas and Eco-regions of Argentina (SIFAP) and provincial and private-sector conservation capacities (GEF, 2011c).

Another important public project on biodiversity being carried out in LAC is the "National Biodiversity Mainstreaming and Institutional Consolidation Project," in Brazil. The objective of this project is to promote mainstreaming of biodiversity principles at the national level, levelling key public and private sector planning strategies and practices, consolidating and strengthening institutional capacity to produce and disseminate relevant biodiversity information.

The Brazilian project was designed to increase involvement in, capacity for, and consensus around mainstreaming biodiversity principles in Brazil. The project initial worked with the agriculture, health, science and technology, environment, forestry, fisheries, and water resources sectors. Energy, transport, and mining, among other sectors, are expected to become engaged in the project during implementation (World Bank, 2008c).

- **Opportunities**

Biodiversity is essential to the survival of forest dependent communities and a number of sectors depend on a variety of ecosystem services, and project financing in this area is a limitation. Market-based finance opportunities should, therefore, be further assessed.

This could include, for instance, biodiversity-related tourism and also local value addition (processing) of non-wood forest products. This can be a major source of income and need to be better explored.

Ecosystem services are also vital for climate change regulation and compensation payments for its contribution need to be considered. The booming biodiversity-based medicinal markets could position the LAC region as a leader in the market through further investment in research and technology development (UNCSD, 2011a).

Despite the investments identified in LAC, a significant funding gap for the conservation of forest biodiversity remains, according to the CBD. Increasing the available funding for forest protected areas should be a priority for future forest financing. The Parties to the CBD have emphasized the need to allocate new and additional resources for the conservation and sustainable use of biodiversity in developing countries, which include LAC countries. This goal was included in the framework for reaching the 2010 target to "substantially reduce the loss of biodiversity" (CBD COP decision VIII/15). Forest financing from a variety of sources will be of key importance in reaching this target (ETFRN, 2008).

2.2.2 - Capacity Building

According to IUCN (2009), capacity building is: "*(i) a set within a dynamic context and involves individuals, networks, organizations and even societies; (ii) a process about change in a changing environment; (iii) an on-going process of continuous learning, adaptation and innovation in dealing with unanticipated problems or issues; (iv) a process in which issues today must be dealt with efficiently and effectively, but the relevance for future work must also be considered; (v) concerned with the role of an outside entity in supporting and enhancing the capabilities of an individual or organization"*.

Capacity building of forestland owners, and also forest managers, encompasses many pressing forestry issues. These include fire management, forest monitoring and remote sensing, forest health and invasive species, migratory species and habitat management, watershed management, protected areas and ecotourism, and sustainable forestry practices (USFS, 2000).

- **Identified Investments**

From the total of 88 projects related to capacity building in LAC identified by the consultant for the period of 2006-2020, most were carried out by the public sector. The investment in these

projects over this timeframe totalled almost USD 1.2 billion, equivalent to an average of USD 209 million per year (see Table 30).

Table 30 –Main Identified Investments in Forestry-Related Capacity Building in LAC (2006-2020)

Investor	Sector	Project Title	Countries		Timeframe		Investment (USD Million)		Share
			Investor	Recipient	From	To	Total	Year	
SAG[1]	Public	PRONAFOR	Honduras	Honduras	2010	2014	522.1	104.4	45.2%
SAyDS[1]	Public	PROSOBO	Argentina	Argentina	2010	2020	280.0	25.5	24.3%
CATIE[1]	Public	R&D	Costa Rica	Costa Rica	2006	2011	120.0	20.0	10.4%
SCCF[2]	Public	Adaptation to Climate Change Impacts on the Coastal Wetlands	United Nations	Mexico	2011	2016	24.3	4.0	2.1%
KFW	Public	Agro-environmental Program Ceja de Selva	Germany	Peru	2008	2012	23.0	4.6	2.0%
Others							184.4	50.5	16.0%
Total							**1,153.8**	**209.0**	**100.0%**

[1] See Chapter 5 for details; [2] See Chapter 3 for details
Sources: BMZ (2008, 2010), CATIE (2011); CBD (2009), GEF (2010c), World Bank (2012c), adapted by the Consultant.

The National Forest Program (PRONAFOR) of Honduras is a part the forest policy, aiming at the development of the forestry sector, protected areas and wildlife, among others. The PRONAFOR's objective is to promote the competitiveness of goods and services generated or produced by forest natural protected areas and forest plantations. Its implementation is divided into four sub-programs: (i) Economic development in forestry; (ii) Community forestry, (iii) Environmental services, restoration of ecosystems and climate change; and, (iv) Protected areas and biodiversity. Each sub-program has been formulated with specific objectives, policy guidelines, goals and actions. The estimate financial resources for PRONAFOR's implementation during the initial period of 2010-2014 are about USD 522.1 million (CBD, 2009).

The Tropical Agricultural Research and Higher Education Centre of Costa Rica (CATIE) is an international institution, established in 1942, focusing on research and graduate education in the agricultural sciences and natural resources. Its mission is to benefit society through the application of knowledge, experiences and technologies to stimulate development, conservation and the sustainable use of natural resources in the American tropics. With a permanent and temporary staff of nearly 500 professionals and with an average yearly budget of USD 20 million, CATIE occupies an important education centre in Latin America (CATIE, 2011).

Another large capacity building project identified in LAC is the "SFM Mitigating Climate Change through Sustainable Forest Management and Capacity Building in the Southern States of Mexico", being carried out by the GEF in Mexico between 2010 and 2012, with a total value of USD 19.3 million (GEF, 2010c). The project aims to mitigate climate change in the agricultural units selected in three Southern States (Campeche, Chiapas and Oaxaca) of Mexico, strengthening SFM and creating local capacities, including the reduction of emissions by deforestation and the increase of carbon sequestration potential through the financing of innovative and relevant initiatives for the most vulnerable population, particularly the indigenous peoples, the dissemination of information and local participation in carbon sequestration monitoring (GEF, 2011b).

Another noteworthy capacity building project in LAC is being carried out by ITTO in a partnership with the CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora). These institutions are collaborating on a programme of activities aimed at

ensuring that international trade in CITES-listed timber species is consistent with their sustainable management and conservation in Africa, Asia and Latin America. The First Phase of the ITTO-CITES Program (2007-2011) has received funding from the European Commission, United States of America, Japan, Norway, New Zealand, Switzerland, Germany, the private sector and through ITTO's Bali Partnership Fund. The European Commission provided a grant worth 2.4 million Euros for program implementation, with over USD 1.2 million provided from the other donors in aggregate by March 2011 (ITTO, 2011a). The project goals are to help the selected African, Asian and Latin American countries strengthen their capacities to make non-detriment findings, enhance national legislation and enforcement, and generally ensure the effective implementation of CITES (CITES, 2012).

There are also more investments in forestry capacity building being carried out by universities located in all LAC countries. However, the data on these specific investments is not promptly available.

- **Opportunities**

Opportunities in capacity building could be explored with increased partnerships between the public and the private sector. Capacity building is one of the most important components in an overall strategy to sustainably manage forests in LAC. The public sector should spend more and also improve efficiency. Hiring specialized private companies to carry out capacity building activities with a better quality and cost-benefit, is one option.

One good example is the project of the Ministry of National Integration of Brazilian cooperation with the State Government, called the Piaui Forest Development Programme (PDFLOR-PI). It was a project carried out in the State of Piaui, Brazil, aimed at building capacities among the local population, including forestry technical assistance to small and medium-sized landowners, and technical support to attract large private sector investors. Between 2004 and 2011, around USD 3 million were applied for these purposes, which helped attracting more than USD 600 million in private investments in forestry, especially forest plantation for wood purposes. An additional of over USD 1 billion is expected to be invested along the next few years in industrial developments. This project was conceived and implemented by a Brazilian private consulting company specialized in forest development programs.

2.2.3 – Climate Change

Climate change means a change of climate which is attributed directly or indirectly to human activities that change atmospheric composition and are additional to natural climate variability observed over comparable time periods (UNFCCC, 2012a).

During the last decade, deforestation in the tropics and forest regrowth in the temperate and boreal zones remained one of the major factors responsible for emissions and removals, respectively. Emissions from deforestation in the 1990s were estimated at 5.8 $GtCO_2$/yr (IPCC, 2007).

The carbon mitigation potentials from reducing deforestation, forest management, afforestation, and agroforestry differ greatly by activity, regions, system boundaries and the time horizon over which the options are compared. In the short term, the carbon mitigation benefits of reducing deforestation are greater than the benefits of afforestation. That is because deforestation is the single most important source, with a net loss of forest area between 2000 and 2005 of 7.3 million ha/yr.

In the long term, a sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual sustained yield of timber, fibre or energy from the forest, will generate the largest sustainable climate change mitigation benefit. Most mitigation activities require up-front investment with benefits and co-benefits typically occurring for many years and decades. The combined effects of reduced deforestation and degradation,

afforestation, forest management, agroforestry and bioenergy have a large potential to be increased from the present to 2030 and beyond (IPCC, 2007).

Forestry can make a significant contribution to a low-cost global mitigation portfolio that provides synergies with adaptation and sustainable development. However, this opportunity is being lost in the current institutional context and lack of political will to implement has resulted in only a small portion of this potential being realized at present. Forestry mitigation activities can be designed to be compatible with adapting to climate change, maintaining biodiversity, and promoting sustainable development (IPCC, 2007).

Comparing environmental and social co-benefits and costs with the carbon benefit will highlight trade-offs and synergies, and help promote sustainable development. Realization of the mitigation potential requires institutional capacity, investment capital, technology R&D and transfer, as well as appropriate policies and incentives, and international cooperation. In many regions, their absence has been a barrier to implementation of forestry mitigation activities, although with some exceptions in reducing deforestation rates and implementing large-scale afforestation programs. Considerable progress has been made in technology development for implementation, monitoring and reporting of carbon benefits but barriers to technology transfer remain (IPCC, 2007).

- **Identified Investments**

Practically all identified climate change projects are financed by the public sector. The consultant identified 32 public projects related to climate change in LAC carried out between 2000 and 2033, which averaged USD 101 million per year. The main projects are presented in Table 31.

Table 31 – Main Identified Investments in Forestry-Related Climate Change in LAC (2000-2033)

Investor	Sector	Project Title	Countries		Timeframe		Investment (USD Million)		Share
			Investor	Recipient	From	To	Total	Year	
World Bank Group	Public	MEDEC Low-Carbon DPL Loan	United Nations	Mexico	2010	2015	401.0	66.8	52%
CDM*	Public	AES Tietê Afforestation/Reforestation Project in the State of São Paulo, Brazil	United Nations	Brazil	2000	2030	79.9	2.7	10%
CDM*	Public	Reforestation as Renewable Source of Wood Supplies for Industrial Use in Brazil	United Nations	Brazil	2000	2030	38.4	1.3	5%
CDM*	Public	Securitization and Carbon Sinks Project	United Nations	Chile	2003	2032	36.5	1.2	5%
CDM*	Public	Forestry Project in Strategic Ecological Areas of the Colombian Caribbean Savannas	United Nations	Colombia	2003	2033	33.8	1.1	4%
Others							185.1	27.7	24%
Total							**774.7**	**100.8**	**100%**

* See Chapter 3

Sources: BMZ (2008, 2010), CDM (2012a); GEF (2010c); World Bank (2012c), adapted by the Consultant.

The main climate change public project identified in LAC is the "MEDEC Low-Carbon DPL Loan", carried out by the World Bank Group in Mexico, with a total value of USD 401 million, equivalent to USD 67 million per year (World Bank, 2012c). The objective of this project is to

support sector-specific, high-priority policy and regulatory reforms that have been identified as critical to achieve Mexico's climate change mitigation targets under the Special Program for Climate Change (PECC). The proposed operation will contribute to the efforts of the Mexican government to facilitate Mexico's involvement in the international carbon market, and implement Nationally Appropriate Mitigation Actions (NAMAs), in particular those adopted in the PECC (World Bank, 2010a).

- **Opportunities**

The investments on climate change forestry-related projects in LAC region are relatively small. According to IPCC (2007), on the overall forestry mitigation activities implemented under the Kyoto Protocol, including the Clean Development Mechanism (CDM), have to date been still limited. The opportunities to increase activities have been identified and include simplifying procedures, developing certainty over future commitments, reducing transaction costs, and building confidence and capacity among potential buyers, investors and project participants.

Climate change and change in climate variability pose serious risks to the environment and to life itself. Climate change poses crucial challenges but may also create new opportunities to be explored for the benefit of the forest sector. Policy-makers and forest managers should take these opportunities into consideration. They will need to consider responses to climate change in the context of the multiple goods and ecosystem services that forests provide to meet the diverse needs of a wide range of stakeholders.

It is important that climate change strategies and plans relevant to forests are integrated into a country's existing forest policy framework and other sectorial frameworks related to forests. This can help to ensure that climate change objectives are balanced with other forest sector objectives and that trade-offs are weighed and synergies captured (FAO, 2011a).

2.2.4 – Ecotourism

Ecotourism is responsible travel to natural areas that conserves the environment and improves the well-being of local people. Ecotourism provides opportunities to diversify a local economy and support the formation of micro and small enterprises, especially in rural areas where few other livelihood options may exist. Ecotourism introduces technology and basic infrastructure and strengthens linkages with the outside world. If wisely planned, ecotourism can improve local governance, natural resources management, biodiversity conservation, and promote other important development goals.

Many developing countries increasingly consider ecotourism as key element to pursue their economic growth and request that development assistance agencies give it higher priority in their programs. The funding agencies have become more interested because of the sector's potential to help achieve many of their own development goals (USAID, 2005).

- **Identified Investments**

The only public project related to ecotourism in LAC identified for the period totals USD 3.5 million, or an average of USD 1.2 million per year. The project "Promoting Ecotourism to Strengthen the Financial Sustainability of the Guatemalan Protected Areas System (SIGAP)", aims to strengthen the financial sustainability of SIGAP by developing new financing for developing ecotourism sector, while ensuring biodiversity conservation objectives (GEF, 2010a).

Table 32 – Main Identified Investments in Forestry-Related Ecotourism in LAC (2010-2012)

Institution		Project Title	Countries		Timeframe		Investment (USD Million)		Share
Name	Sector		Investor	Recipient	From	To	Total	Year	
GEF	Public	Promoting Ecotourism to Strengthen the Financial Sustainability of the Guatemalan Protected Areas System (SIGAP)	United Nations	Guatemala	2010	2012	3.5	1.2	100%

Source: GEF (2010c), adapted by the Consultant.

The Government of Guatemala identified tourism as a central component of its Social and Environmental Policy (SEP). The government is committed to promoting ecotourism in PAs (Protected Areas) as part of the SEP's Management of Nature Goods and Services strategic program.

Guatemala's tourism industry is one of the largest private sources of income for the country and continues to grow. The country received 1.7 million tourists in 2008, representing an income of USD 1.28 billion. Tikal National Park is one of the most visited places, which has generated over USD 2.3 million in entrance fees over the past 5 years. Ecotourism is a unique opportunity to enhance the financial sustainability of SIGAP, and increasing biodiversity protection in these areas (GEF, 2010a).

- **Opportunities**

Ecotourism may generate important economic and social benefits, mostly associated to protected areas and surrounding communities. A well-developed ecotourism industry can contribute to shift local behaviour, favour conservation and reducing biodiversity threats and deforestation. This approach is an indirect opportunity to contribute to investments in sustainable forest management.

In order to make ecotourism development more efficient and increase its contribution to finance sustainable forest management , it is necessary that the public sector invests in: (i) Increasing information available to potential visitors on protected areas and other ecosystems outside the traditionally visited areas; (ii) Create incentives for institutional cooperation and investment to promote ecotourism; (iii) Develop mechanisms for collection of visitors' fees, concessions, and reinvestment in protected areas; and (iv) Improve the skills of protected areas administrators to manage ecotourism (GEF, 2010b).

2.2.5 – Forest and Landscape Restoration

About 30% of global forest cover has been completely cleared and a further 20% has been degraded. More than two billion hectares of deforested and degraded forest land worldwide may have the potential to be restored. A restored landscape can accommodate a mosaic of land uses such as agriculture, protected reserves, ecological corridors, regenerating forests, well-managed plantations, agroforestry systems, and riparian plantings to protect waterways. Forest and landscape restoration is more than just planting trees. It goes beyond afforestation, reforestation, and ecological restoration to improve both human livelihoods and ecological integrity (WRI, 2012).

The role of landscape restoration has been recognized through recent international decisions on climate change and biodiversity. In October 2010, Japan proposed a target calling for restoration of at least 15% of degraded ecosystems by 2020 at the CBD 10thConference of the Parties. In December 2010, Parties to the UNFCCC adopted the goal to slow, halt and reverse forest cover and carbon loss through REDD+ actions.

Forest and landscape restoration is implemented at a landscape scale rather than a single site, considering social, economic, and biological aspects in the landscape. According to IUCN

(2011), there is no single restoration technique that can be applied to all situations. The practical techniques may include activities such as agroforestry, enrichment planting, and natural regeneration at a landscape scale. This involves among other issues, policy analysis, training and research.

- **Identified Investments**

Identified projects oriented to forest and landscape restoration in LAC are all financed by the public sector. A total of 18 projects related to this issue were identified by the consultant for the 1989-2022 period, totalling USD 547 million, corresponding to an average of USD 157 million per year. The Ministry of Environment of Brazil (MMA) is the main institution funding this type of projects (see Table 33).

Table 33 – Main Identified Investments in Forest and Landscape Restoration in LAC (2006-2012)

Investor	Sector	Project Title	Countries		Timeframe		Investment (USD Million)		Share
			Investor	Recipient	From	To	Total	Year	
MMA*	Public	FNMA	Brazil	Brazil	1989	2011	132.0	5.7	24.1%
MADS*	Public	National Plan for Forest Fire Control and Restoration of Affected Areas	Colombia	Colombia	1998	2022	78.5	3.1	14.3%
CONAFOR*	Public	Programme of Conservation and Restoration of Forest Ecosystems (PROCOREF)	Mexico	Mexico	2010	2010	61.4	61.4	11.2%
CONAFOR*	Public	Other Conservation and Restoration Projects	Mexico	Mexico	2010	2010	58.8	58.8	10.7%
MI*	Public	CODEVASF - Revitalization of São Francisco River Watershed	Brazil	Brazil	2004	2015	49.5	4.1	9.0%
Others							167.1	23.5	30.5%
Total							**547.3**	**156.7**	**100.0%**

* See Chapter 5

Sources: BMZ (2008, 2010), BNDES (2012f); CONEVAL (2011); FAO (2012c); GEF (2010c); ITTO (2011b); MADS (2011); MI (2012 b); MMA (2011); World Bank (2012c), adapted by the Consultant.

The National Environment Fund (FNMA), administered by the MMA, was established in 1989, being the oldest environmental fund in Latin America. Its mission is to contribute, as funder, through social participation, for the implementation of the Brazilian National Environmental Policy (PNMA). Along this timeframe, it financed about 1,400 projects related to forest and landscape restoration, totalling USD 132 million, or an average of USD 5.7 million per year (MMA, 2012).

One of the main forest restoration project identified in LAC is the “Inter Regional Program for Poverty Alleviation and Combating Desertification through collaborative Watershed Management”, financed by FAO in Ecuador, between 2010 and 2012, with a total value of USD 2.5 million. This project is the first phase of an inter-regional programme, aimed at promoting an integrated watershed management approach in arid and semi-arid lands to contribute to poverty alleviation and combating desertification.

Funded by the Government of Spain and implemented by FAO in collaboration with the Governments of Ecuador, the Project is carried out in partnership with the CORFAM (*Corporación de Desarrollo Forestal y Ambiental de Manabí*) and the SENAGUA (*Secretaría*

Nacional del Agua) in Ecuador. The project is carried out in the micro-watershed of Rio Membrillo, in the Province of Manabí, with an area of about 18,000 ha. Formerly made up of exuberant coastal forests, the area has suffered from deforestation, overgrazing, and inappropriate agriculture and livestock practice.

The project encompasses the following activities: (i) Developing a watershed management strategy and plan; (ii) Strengthening local stakeholders capacities to implement the plan; (iii) Building institutional capacity and providing technical assistance at the local and provincial/regional level for combating desertification and degradation and for poverty alleviation; (iv) Information sharing and dissemination of the project's lessons learned (FAO, 2010a).

- **Opportunities**

Opportunities for forest landscape restoration are largely related to developing tools for the private sector to carry out such projects in order to adjust their rural properties to environmental requirements. For example, the government of the State of Sao Paulo, Brazil, demands landowners to recover the riparian forests, called permanent preservation areas (APP), with plantations recovery carried out with native species or through assisted regrowth with demarcation and fencing when there are also cattle raising activities in the land. In general, the areas that need funding are there covered with secondary forests, and include restoration of degraded forest land, and promotion of agroforestry systems to restore forest landscape.

2.2.6 – Governance

Governance is the method through which power is exercised in the management of a country's political, economic and social resources for development. It is the exercise of economic, political and administrative authority to manage a country's affairs at all levels. It comprises the mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations and mediate their differences. The term governance enlarges and better illustrates what Governments should be focusing on (ECOSOC, 2006).

According to FAO (2010b), forest policy goals need to address main societal issues and be aligned with a country's development goals. All concerned sectors and stakeholders should be involved in achieving these goals. Such a scope requires a broad perspective of land use and natural resource management.

With changing societal demands, forest policies and practices have evolved considerably over time, and national policies need to anticipate future needs and trends to help to shape a broader vision for the country. Effective governance for forest finance requires comprehensive, coherent and cross-sectorial approaches. The rule of law, democracy, participation, transparency and accountability are also essential. Informed decision-making, linking governance and research, is also required.

Aspects of governance involving the payment of environmental services (PES), for instance needs to consider developing appropriate institutions within the existing framework and/or developing new institutions. They must guarantee that the providers of environmental services actually provide the services and those who benefit from them pay for them. The system needs to be adapted to local conditions and based on the interests of stakeholders.

The PES system also requires policy and/or market support to function properly and to manage the value of services. Governance in some cases requires that mutually supportive arrangements be established among international obligations/opportunities and that these are balanced by national development priorities on the part of governments and by local conditions. It requires a framework which can effectively and reliably maintain multiple forest values and sustainably deliver appropriate benefits, incentives, payments and revenue (ETFRN, 2008).

- **Identified Investments**

Governance projects are typically public financed projects. Public projects on governance are quite representative, and represent 10.5% of total public projects related to forestry in Latin America and the Caribbean region.

A total of 46 projects related to forest governance were identified by the consultant in LAC for the 2006-2012 period. These projects correspond to USD 687 million, an average of USD 174 million per year during this period. The main projects are presented in Table 34. The World Bank Group is the main public institution funding projects in the governance area.

Table 34 – Main Identified Investments in Forestry-Related Governance in LAC (2006-2012)

Investor	Sector	Project Title	Countries		Timeframe		Investment (USD Million)		Share
			Investor	Recipient	From	To	Total	Year	
World Bank Group	Public	Mexico - Climate Change Development Policy Loan	United Nations	Mexico	2008	2011	501.3	125.3	73.0%
GEF	Public	SFM Strengthening National Policy and Knowledge Frameworks in Support of Sustainable Management of Brazil's Forest Resources	United Nations	Brazil	2008	2012	43.8	8.8	6.4%
GEF	Public	Building a Comprehensive National Protected Areas System: A Financial and Operational Framework	United Nations	Chile	2008	2012	38.9	7.8	5.7%
GEF	Public	SFM Transforming Management of Biodiversity-rich Community Production Forests through Building National Capacities for Market-based Instruments - under the Sustainable Forest Management Program	United Nations	Mexico	2010	2012	25.2	8.4	3.7%
EuropeAid	Public	Environmental Policy Support Programme	European Union	Ecuador	2006	2011	22.1	3.7	3.2%
Other							55.6	19.8	8.1%
Total							**686.8**	**173.8**	**100.0%**

Sources: BMZ (2008, 2010), EC (2010); FAO (2012c); GEF (2010c); IDB (2012b); World Bank (2012c), adapted by the Consultant.

The main public project on governance identified in LAC is the "Climate Change Development Policy Loan in Mexico", carried out between 2008 and 2011 financed by the World Bank, with a total value of USD 501.3 million (World Bank, 2012a). The project aimed to support the government of Mexico and covered policy reforms in three areas: (i) Improved analytical basis for policy responses; (ii) Approval of the national climate change strategy by the government's inter-secretarial commission on climate change; and (iii) Integration of climate change considerations in sector programs (World Bank, 2008a).

Another project in this area is the "SFM Strengthening National Policy and Knowledge Frameworks in Support of Sustainable Management of Brazil's Forest Resources". It was funded by GEF, with a total budget USD 43.8 million covering the 2008-2012 timeframe. It aims

to facilitate informed and participatory strategic decision-making in natural resources management, with an emphasis on minimizing unsustainable land use-changes to conserve biodiversity and carbon stocks (GEF, 2008a).

Another important governance project is the "Building a Comprehensive National Protected Areas System: A Financial and Operational Framework". This project is supported by GEF and implemented by Chile, with a total value of USD 38.9 million. The objectives of the project are the legal, strategic and operational framework reforms for the sustainable financing of a new integrated National System of Protected Areas (SNAP). This is expected to be achieved through six outputs: (i) Legal reforms to enable creation of the SNAP and improved financing of PAs; (ii) Institutional reforms for sharing SNAP responsibilities and resources; (iii) Criteria established for inclusion of additional lands into SNAP (post-project) in accordance with projected funding levels and biodiversity benefits; (iv) SNAP Financing strategy defined and short term plan in operation; (v) Operational standards defined for SNAP categories and for allocation of financial & human resources to PAs; and (vi) Information management systems to monitor biodiversity benefits and costs (GEF, 2007b).

- **Opportunities**

Opportunities related to governance are related to the high cost-benefit achieved through such initiatives. To improve the efficiency, governance projects need, in most cases, be linked with capacity building projects. Enhanced public institutions and organizations are expected to produce substantial improvements in the use of public resources, at the same time improving the business environment, reducing transaction costs and attracting more private investments for SFM.

2.2.7 - Natural Forest Conservation

Natural forests are important for the biodiversity conservation. They also play an essential part of the global carbon cycle, and play a major role in modulating the strength of the greenhouse effect (UNFCCC, 2008).

In the 1990s, protected areas were often regarded as ineffective "paper parks". In spite of this fact, satellite photos evidenced that deforestation inside protected areas was substantially lower than outside areas. On the other hand, forest areas allowed for sustainable forest use were on average more effective. In addition, officially designated indigenous areas are considered the most effective (World Bank, 2011b).

Protected areas have been considered the most important of all conservation tools. Effective management of protected areas is crucial for, among other things, biodiversity conservation, environmental management and the protection of the world's cultural heritage (WWF, 2004).

Forest areas not used for production are rarely self-financing, and subsidies and/or direct action by the government are required to manage these areas properly. Financial resources are often insufficient to properly manage vast forest areas, so substantial additional financial resources are required. Effective mobilization of funds involves a wide range of mechanisms and sources, both traditional and innovative, public and private, and domestic as well as foreign investments (FAO, 2006b).

- **Identified Investments**

Most forest conservation projects are public financed, but there is also a significant investment made by the private sector. About 18% of the natural forest conservation projects are financed by the private sector, in this case by philanthropic institutions, such as the Moore Foundation and others.

The main identified investors in this field in Latin America and the Caribbean region are presented in Table 35. The 45 projects related to natural forest conservation identified by the

consultant in LAC over the 2001-2018 time period totalled USD 750 million, an average of USD 239 million per year.

Table 35 – Main Identified Investments in Natural Forest Conservation in LAC (2001-2018)

Investor	Sector	Project Title	Countries		Timeframe		Investment (USD Million)		Share
			Investor	Recipient	From	To	Total	Year	
Moore Foundantion	Private	Forests	United States	Brazil	2001	2008	200	25.0	26.7%
GEF	Public	Amazon Region Protected Areas Program Phase 2	United Nations	Brazil	2010	2012	87.6	29.2	11.7%
MINAG*	Public	Programme of Public Investments of the National Forest Conservation Programme in the Departments of Amazonas, Lambayeque, Loreto, Piura, San Martin, Tumbes, Ucayali and Madre De Dios (PNCB-PI)	Peru	Peru	2011	2018	59.5	7.4	7.9%
MMAyA*	Public	SERNAP	Bolivia	Bolivia	2011	2011	44.4	44.4	5.9%
GEF	Public	SFM Catalyzing the Contribution of Indigenous Lands to the Conservation of Brazil's Forest Ecosystems	United Nations	Brazil	2009	2012	37.5	9.4	5.0%
Other							320.6	123.8	42.8%
Total							**749.5**	**239.2**	**100.0%**

* See Chapter 5

Sources: BMZ (2008, 2010), FAO (2012c); GEF (2010c); ITTO (2011b); TNC (2010); USAID (2008); World Bank (2012c), adapted by the Consultant.

An important natural forest conservation public project identified in LAC is the "Amazon Region Protected Areas (ARPA) Program- Phase 2", supported by GEF in Brazil for the 2010- 2012 period. The total value of the project was USD 87.6 million (GEF, 2010c), corresponding to 15% of the total investment in natural forest conservation projects in LAC.

The ARPA project supports the GEF's Biodiversity Focal Area Operational Strategy by contributing to the long-term protection of Brazil's ecosystems. Specifically, the project (ARPA Phase 2) targets three GEF priorities: (i) *In-situ* conservation of globally unique biodiversity; (ii) Sustainable use of biodiversity; and (iii) Local participation in the benefits of conservation activities (GEF, 2010e).

Another large project, also supported by GEF, is the "SFM Catalysing the Contribution of Indigenous Lands to the Conservation of Brazil's Forest Ecosystems", with a total budget USD 37.5 million over 2009-2012. The objective of this project is to catalyse the consolidation of Indigenous Lands (ILs) as essential protected areas for the biodiversity conservation in Brazilian forest ecosystems and as a part of the National Protected Areas Plan and Indigenous Peoples Environmental Management Policies. This is an innovative project promoting environmental management in Indigenous Lands (IL) by Indigenous Peoples (IP) for the effective conservation and sustainable use of forest biodiversity (GEF, 2007a).

- **Opportunities**

Opportunities for natural forests conservation are mainly related to concession of public forests to the private sector. There are several conservation areas in LAC that could be transferred, under a concession scheme to be managed by the private sector.

A good example of this kind of initiative is the concession of the Iguassu National Park, located in Southern Brazil, for the private initiative. The Iguassu National Park concession was made by the Ministry of Environment of Brazil (MMA) through a public bid, demanding investments in the park in exchange to the allowance of charging entrance fees. This process transformed a problematic preserved area in the best national park in Brazil.

2.2.8 - Natural Forest Sustainable Management

Natural forest sustainable management is important for production of wood and non-wood products, but also for conservation purposes, especially in the tropical forest ecosystems of LAC region because of their high levels of plant and animal diversity (FAO, 1992). More than a billion of the world's poor depend on forests for some part of their livelihoods and food security, and around 60 million indigenous people are forest dependent for their survival.

It is noteworthy that forest management plans, approved by concerned governments, cover only 6% of forested areas in developing countries (as compared with 89% in developed countries) and non-sustainable harvesting practices have caused loss of the world's forests (USAID, 2005).

The vast majority of countries are looking into implementing sustainable management of natural forests due to globalization of markets, increasing environmental awareness, and calls for the promotion of SFM in multilateral environmental agreements. Nevertheless the lack of funding for improving forest management seems to be a major limitation and existing financing sources are not sufficient.

Alternative financing arrangements are being developed in many countries, including conservation concessions, debt-for-nature-swaps, payments for environmental services, green funds (payments for carbon offsets), and compensatory payments, among others. However, overall lack of information on the roles, priorities, and requirements of the various funding institutions remain unclear to the vast majority of individuals involved in forest management activities (FAO, 2006a).

SFM and its financing have several requirements, including: (i) Good governance and an enabling environment for forest investment; (ii) Coherence and interaction between different policies and programs; (iii) Participation and involvement of local communities, forest owners, indigenous people and other stakeholders in forest decision-making processes, with an emphasis on their capacity, rights, benefits, interests, incentives and access to markets); (iv) Comprehensive cost-benefit analysis about land-use changes and incorporation of timber and non-timber forest products, services and values as well as traditional forest-related knowledge; (v) Ecosystem-level management and planning; (vi) Innovative policy approaches and positive incentives for SFM (such as the PES and REDD approaches); and (vii) International cooperation, increased official development assistance and new financial resources from all sources, including the private and public sector, public-private partnerships and international organizations (ETFRN, 2008).

- **Identified Investments**

Investments in natural forests sustainable management are public and private. Public investment in projects related to natural forest sustainable management in LAC region represent a significant share of the public financed projects' total, corresponding to 12%.

The main natural forest sustainable management public project identified in LAC is the Amazon Fund. This program was financed by NORAD and implemented by Brazil since 2009. The total

value invested so far is USD 257.7 million, representing 45% of the total investment in natural forest sustainable management in the region. The forestry initiative sends Brazil to the top of the list of Norwegian bilateral aid recipients. Through the Amazon Fund, Norway funds activities supporting the Brazilian government's efforts to combat deforestation in the world's largest rainforest area.

Norway has pledged to support the Amazon Fund with around USD 1 billion until 2015. The two projects financed by Norway so far through UNDP have resulted in plans for sustainable use of forests in the states of Acre, Pará and Mato Grosso. These plans constitute an important platform for Brazil's future work, including the formulation of measures under the Amazon Fund. The agreement to support the Amazon Fund was signed in 2009 and is in effect until 2015. Norway decides how much funding is to be allocated each year based on the results achieved (NORAD, 2012a).

A total of 57 projects were identified by the consultant as related to natural forest sustainable management in LAC in the 2006-2016 timeframe. These projects totalled USD 829 million, equivalent to USD 316 million per year (see Table 36). NORAD is the main public institution financing projects related to natural forest sustainable management in LAC region.

Table 36 – Main Identified Investments in Natural Forests Sustainable Management in LAC (2006-2016)

Investor	Sector	Project Title	Countries		Timeframe		Investment (USD Million)		Share
			Investor	Recipient	From	To	Total	Year	
NORAD	Public	Forests	Norway	Brazil	2009	2010	257.7	128.9	31.1%
MINAG*	Public	Management and Conservation of Renewable Natural Resources in the High Andes Zones of Peru	Peru	Peru	2007	2016	80.1	8.0	9.7%
MMA*	Public	SFB	Brazil	Brazil	2009	2010	46.5	23.3	5.6%
MDIC*	Public	BNDES Amata	Brazil	Brazil	2011	2015	40.3	8.1	4.9%
GEF	Public	Fostering Sustainable and Competitive Production Systems Consistent with the Conservation of Biodiversity	United Nations	Mexico	2010	2012	32.1	10.7	3.9%
Other							372.1	137.6	44.9%
Total							**828.8**	**316.4**	**100.0%**

* See Chapter 5

Sources: BMZ (2008, 2010), BNDES (2010); FAO (2012c); GEF (2010c); ITTO (2011); MINAG (2011); NORAD (2012c); SFB (2011a); World Bank (2012d), adapted by the Consultant.

Another large project on natural forest sustainable management is the “Fostering Sustainable and Competitive Production Systems Consistent with the Conservation of Biodiversity”, financed by GEF and implemented in Mexico. The total budget of this project is USD 32.1 million over 2010-2012. The objective is to conserve and protect nationally and globally significant biodiversity in Mexico through improving and mainstreaming sustainable management practices in the productive landscape in priority ecological corridors (GEF, 2010b).

- **Opportunities**

Opportunities in natural forests sustainable management are largely related to public investments in the improvement of the business environment to enhance the private sector investments in this area.

There are 681 million hectares of unmanaged natural forests in LAC, representing 71% of the total area. Most of this area could be sustainably managed by forest owners, which currently in many cases regard these areas as unproductive. Public investments for attracting private financing should focus on: (i) Governance, including better institutions and legislation; (ii) Land titling of all forest area; (iii) Capacity building, providing technical information and assistance to forest owners.

Another interesting opportunity regarding natural forests sustainable forest management is the concession of public forests to the private sector. The Amata project, financed by the BNDES with a total value of USD 40 million, refers to the public financing of the private company that won the public bidding of the Jamari National forest, in Northern Brazil. The financing includes the wood processing facility, a key issue to increase the competitiveness of wood and non-wood basic forest products, which must have a nearby consuming market for being economically feasible, as basic products are sensitive to freight over a long distance.

If properly industrialized, non-wood forest products may become the supply basis for several economic sectors and productive chains. For example, there are many managed tree species with high potential for oil production, including some palm species (Moriche, Orbygnia) and the Brazil-Nut Tree. Attracting investments in the implementation of vegetable oil processing plants, several mineral oil sub-products could be replaced, including diesel (for biodiesel), gasoline (ethanol) and plastics (natural polymers). An industrial processing based on forest products would increase their prices, providing economic feasibility for natural forests sustainable management, and providing economic feasibility to the natural forests sustainable management.

2.2.9 - Payment for Environmental Services (PES)

Ecosystem services are defined as all benefits that humans receive from ecosystems. Payment for Environment Services (PES) are an economic instrument designed to provide incentives to land users, on behalf of service beneficiaries, for agricultural land, coastal, or marine management practices, so a specific user or society will benefit more broadly (FAO, 2010d).

Currently, PES schemes focus mainly on water, carbon and/or biodiversity and respond mainly to public, but increasingly also to private, interest in addressing an environmental problem through positive incentives to land managers.

Poverty is a major cause of environmental degradation. Thus, rewarding poor producers to adopt more environmentally friendly systems of production would result in both environmental benefits and poverty reduction. Many aspects that might prevent or limit participation in a PES programme are likely to be correlated with poverty: insecure land tenure, lack of land title, small farm holdings or lack of access to credit. There is the need to understand how PES programs can be designed to maximize poverty reduction and minimize possible negative effects, whilst not undermining the achievement of the programs' environmental goals.

REDD should be a facilitator of an international system of PES. As a UNFCCC mechanism, REDD is intended to reducing emissions from deforestation and forest degradation. As a result, countries with large forest areas such as Brazil, as well as countries with high deforestation rates, will be the target of REDD-related projects.

Valuating carbon in standing forests acknowledges their importance as a carbon sink and can be seen as a payment for an ecosystem service on a global scale. This creates an opportunity for SFM, whose definition may have to be expanded. Even though forests are managed for a variety of purposes today, sustainability in SFM too often refers to the amount of wood harvested rather than considering the social and ecological functions of the forest as a whole (ETFRN, 2008).

Market-based instruments have the potential to generate new conservation revenues on agricultural and forested lands around the world. Through payments for environmental services such as sequestering carbon, conserving biological diversity, and maintaining water resources, market-based approaches to conservation recognize the value of ecosystem services. The continued delivery of many of these ecosystem services depends on land management decisions made by farmers and forest dwellers. The rural poor working on agricultural lands represent important stewards of ecosystem services. Channelling payments to these communities in return for their stewardship of ecosystem services could generate broad benefits, including increased food security and improved environmental health (FAO, 2007b).

- **Identified Investments**

Project on PES are almost only financed by the public sector. A total of 18 PES projects were identified by the consultant as financed for the LAC between 1997 and 2012, totalled USD 547 million, an average of USD 169 million per year (see Table 37).

Table 37 – Main Identified Investments in Forestry-Related Payment for Environmental Services in LAC (1997-2012)

Investor	Sector	Project Title	Countries		Timeframe		Investment (USD Million)		Share
			Investor	Recipient	From	To	Total	Year	
FONAFIFO	Public	PES	Costa Rica	Costa Rica	1997	2008	206.0	17.2	38%
INE	Public	PSAH	Mexico	Mexico	2003	2008	144.2	24.0	26%
CONAFOR	Public	Programme of Payment for Environmental Services (PSA)	Mexico	Mexico	2010	2010	62.6	62.6	11%
Bradesco	Private	Annual Contribution to the Bolsa Floresta	Brazil	Brazil	2008	2012	28.6	5.7	5%
CONAFOR	Public	Programme of Environmental Services for the Capture of Carbon, Biodiversity and Agroforestry Systems (CABSA)	Mexico	Mexico	2010	2010	24.9	24.9	5%
Others							80.6	34.1	15%
Total							**546.8**	**168.5**	**100%**

* See Chapter 5 for details.

Sources: BMZ (2008, 2010), Bradesco (2012); CONEVAL (2011); FONAFIFO (2007); GEF (2010c); INE (2009); World Bank (2012c), adapted by the Consultant.

The main PES public project identified in LAC is the Costa Rica's innovative policy to protect its natural resources. In 1996, Costa Rica enacted the Forest Law 7575, which introduced incentive-based measures to compensate forest owners for the conservation of forest functions that provide environmental services to society. The law explicitly recognized four environmental services provided by forest ecosystems: (i) Mitigation of greenhouse gas emissions; (ii) Hydrological services, including provision of water for human consumption, irrigation, and energy production; (iii) Biodiversity conservation; and (iv) Provision of scenic beauty for recreation and ecotourism.

To secure these services, a system of payments for environmental services called PSA (*Pagos por Servicios Ambientales*) was introduced in Costa Rica. The PSA programme is managed by the National Forestry Finance Fund, or FONAFIFO (*Fondo Nacional de Financiamiento Forestal*) and compensates owners of forests and forest plantations for conserving, managing or restoring forests.

Water scarcity is one of Mexico's most pressing environmental challenges. To address this issue, in 2003, Mexico established a programme of payments for hydrological environmental services called PSAH (*Pagos por Servicios Ambientales Hidrológicos*). The programme aims to secure Mexico's water supply by paying locals to conserve well preserved forests that are at risk of deforestation. The PSAH programme maintains a direct link between ecosystem service buyers and providers on a national scale by raising revenue from national water fees. The fees have raise on average USD 24 million annually (equivalent to approximately 4% of total water revenues) and have been used to directly finance the PSAH programme.

Bradesco, the second largest Brazilian private financial institution created in 2008 the Sustainable Amazonas Foundation (FAS) with the collaboration of the government of the State of Amazonas, Brazil. Resources were applied in a permanent fund, where only the profits are invested every year, exclusively in the payment of the beneficiaries of the Forest Fund Program (*Programa Bolsa Floresta*), a scheme of payment for environmental services supplied by natural forests in the state of Amazonas. Bradesco supplies to the FAS a minimum annual contribution of USD 5.7 million (FAS, 2009).

- **Opportunities**

The opportunities for PES are related to improvement of regulations to charge of public fees over the use of natural resources, to the benefit of the society. Water seems to be the most appropriate resource to start. The fees established can be used for the creation of public funds, which in turn would be used for the payment of environmental services.

Among the main beneficiaries of these payments are forest owners located in the river basin that had their resources exploited. The increase of the forest cover in the river basins improves the water quality and quantity, ultimately benefiting the entire population, including the natural resources users who first paid fees for using it.

2.2.10 - Planted Forests

Planted forests are those planted by human intervention and that are under intensive stand management. Forest plantations can be established for protection or production. Most planted forests are considered as long-term investments, which foster socio-economic development, attracting investment in industrial processing activities that facilitates the creation of clusters in the forest industry, generating jobs and services (FAO, 2009a).

The planted forest sector is important in several countries in the LAC region, and forest activities based on plantations have a good potential for development. Investment in forest plantations is an option for job generation in the region in a relatively short-term. In the long-term, forest plantations can provide raw material to a competitive timber industry, contributing to the sustainable development of the region (FAO, 2009a). Forest plantations are an important economic activity particularly in Brazil, Chile, Argentina and Uruguay. Other countries of LAC region have also developed forest plantation programs.

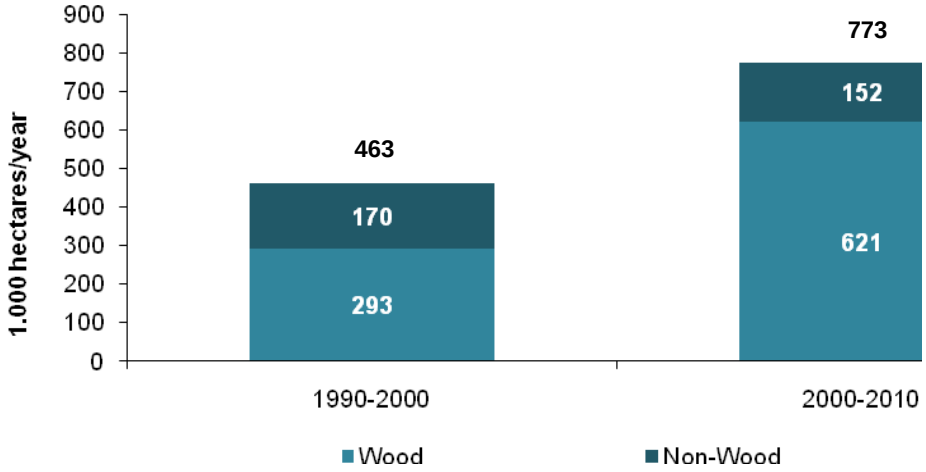
- **Identified Investments**

Most of the on-going and announced investments in the forest sectors of Brazil, Chile, Argentina and Uruguay are linked to forest plantations. The Chilean forest industry is the country's second most important economic activity, contributing with more than 3% to the national GDP and approximately 7% of total exports. In Brazil, the forest sector also accounts for more than 3% of GDP and around 5%of total exports. In Brazil, direct domestic investments are the most important, while in Chile and Uruguay foreign companies are also important. The pulp and paper industry is the largest investor, however institutional and other private investors are gaining importance (FAO, 2009a).

Trends in planted forest areas in the LAC region show that the greenfield planted forest area in the region increased from an average of 463 thousand hectares/year (63% for wood purposes)

between 1990 and 2000, to 773 thousand hectares/year (80% for wood purposes) between 2000 and 2010 (see Figure 7).

Figure 7 – Annual Average Greenfield Planted Forest Area in LAC (1990-2010)



Source: FAO (2010c, 2012d), adapted by the Consultant.

Main species of tree species used in the forest plantations for wood purposes are Eucalypt, Pine and Teak (FAO, 2010c), and for non-wood purposes are Oil Palm, Cocoa, Avocados, Rubber and Cashew Nut trees (FAO, 2012d).

Investment in forest assets has grown in recent decades. Institutional investors in particular, including pension funds, university endowments and trust funds have increased forest investments in their portfolios. These investors are looking for an asset with a steady cash flow that provides diversification, long-term profitability and on-going earnings that meet an established risk-reward ratio. They see forests as a hard asset that generates real investment-based returns, unlike assets such as company shares, which are subject to market forces (ETFRN, 2008).

- *Non-Wood Purposes*

The investments in planted forests for non-wood forest products are mostly carried out by the private sector. Investments in projects related to forest plantations for non-wood products identified by the consultant over the 2002-2020 period totalled USD 1.6 billion, an average of USD 320 million per year (see Table 38).

Petrobras (Brazilian Petroleum) has launched two projects of biodiesel production from palm oil. The supply strategy of biodiesel plants foresees palm planting particularly in one of the most deforested regions in the State of Pará. The project is expected to bring environmental benefits, including recovery of degraded areas, soil protection, ecological balance and the economic reintegration of these regions with little productive activity. The plantations will also contribute to the reduction of greenhouse gases in the production cycle of vegetable oil and biodiesel production. The project has also positive social and economic impacts for the region. Seven thousand direct jobs will be generated, of which approximately 5,250 in the agricultural sector and 1,750 in the industrial area and logistics, and 2,250 family farmers will be involved in palm plantation. Investment in palm plantations should total USD 581 million between 2011 and 2015 (Petrobras, 2012).

Table 38 – Main Identified Investments in Forests for Non-Wood Forest Products in LAC (2002-2020)

Investor	Sector	Project Title	Countries		Timeframe		Investment (USD Million)		Share
			Investor	Recipient	From	To	Total	Year	
Petrobras Biocombustíveis	Private	Planted Forests for Biodiesel	Brazil	Brazil	2011	2015	581.0	116.2	36%
MADR*	Public	Competitive Strategy for the Development of the Colombian Oil Palm Sector	Colombia	Colombia	2002	2007	366.6	61.1	23%
Vale Biodiesel	Private	Planted Forests for Biodiesel	Brazil	Brazil	2011	2013	305.0	101.7	19%
MDIC*	Public	MODERAGRO	Brazil	Brazil	2010	2020	138.7	12.6	9%
Kraft Foods	Private	Planted Forests for Cocoa	United States	Dominican Republic	2011	2020	70.0	7.0	4%
Nestle	Private	Planted Forests for Cocoa	Switzerland	Ecuador	2011	2020	60.5	6.1	4%
Others							75.9	15.7	5%
Total							**1,597.7**	**320.3**	**100%**

* See Chapter 5 for details

Source: FAO (2012c), MAPA (2011); USAID (2011); Nestle (2011); Petrobras (2012);Vale (2012a); adapted by the Consultant.

The Vale Biodiesel project is an initiative of the Vale mining company in search for sustainable businesses. It is a joint-venture between Vale and Biopalma da Amazônia, formed in 2009. It will produce palm oil, raw material for biodiesel production, in the State of Pará, Brazil, from 2014. The investment will total USD 305 million. With this partnership, the company will use a portion of palm oil production for biodiesel production, which will be used for transport, large-sized equipment and machineries in the Carajás mine. The annual biodiesel production will be of 500 thousand tons, a volume that corresponds to a reduction of around 12 million tons of CO_2 equivalent in the atmosphere during the duration of the project. The project will occupy approximately 130,000 ha of pastureland, of which 60 thousand ha (5 thousand already planted) for oil plantation and 70 thousand hectares for natural forest recovery and preservation. Out of 60 thousand hectares to be planted by 2022, about 15 thousand ha will be based on family agriculture, involving up to 2 thousand families (VALE, 2012a).

The Modernization Program for Agriculture and Natural Resources Conservation in Brazil (MODERAGRO) is designed to finance agricultural sectors, including permanent agriculture or planted forests for non-wood purposes, especially Orange, Mango, and Cashew Nut trees. Financing is available to farmers (individuals or corporations) and their cooperatives, including lending to their members. The funding limit may reach USD 1 million, with an interest rate of 6.75% per year (BNDES, 2012d). The MODERAGRO financing for new investments in permanent agriculture was equivalent to USD 139 million between 2000 and 2010 (MAPA, 2011).

Kraft Foods launched in 2011 a program to support cacao farmers in the Dominican Republic, with the USAID support. The program aims to increase local cocoa yields and quality, promote production of Fair Trade cacao, encourage young adults to work along the cacao supply chain, and help more than 10,000 farmers to earn more income. Through its Cocoa Partnership, the Kraft Foods has committed to invest USD 70 million over 10 years to improve farming and harvesting practices in the communities from which it sources cacao (USAID, 2011).

Nestlé is a Swiss company that grew to establish cocoa production. Cocoa is mainly grown in small, family-run farms in remote, rural areas and provides an income to more than 4.5 million

farmers around the world. Nestlé bought 380,000 tons of cocoa in 2010, or over 10% of the world's supply (Nestlé, 2012). The Nestlé's investment of USD 61 million over the next decade to the Cocoa Plan will focus on plant science and sustainable cocoa production in Ecuador. The investments will be used to: (i) Training farmers on agricultural best practice to increase their yields, reduce cocoa disease, adopt better agricultural farming practices and produce a better quality crop; (ii) Investing in plant research to propagate disease-resistant plantlets and sustainability of cocoa production; (iii) Improving the supply chain by buying from cooperatives and paying a premium for high-quality cocoa; (iv) Creating better social conditions in cocoa-growing areas, improve education opportunities, and to improve water and sanitary conditions (Nestlé, 2011).

- *Wood Purposes*

Most of the projects on planted forests for wood purposes are carried out by the private sector. Between 2006 and 2018, these projects totalled USD 10.3 billion, an average of USD 2.9 billion per year during this timeframe (see Table 39).

Table 39 – Main Identified Investments on Forests for Wood Purposes in LAC (2006-2018)

Investor	Sector	Project Title	Countries		Timeframe		Investment (USD Million)		Share
			Investor	Recipient	From	To	Total	Year	
Suzano	Private	Planted Forests for Pulp and Pellets	Brazil	Brazil	2008	2015	1,285.0	160.6	12.5%
Eldorado	Private	Planted Forests for Pulp	Brazil	Brazil	2011	2015	697.0	139.4	6.8%
Vale Florestar	Private	Planted Forests for Pulp and Sawlogs	Brazil	Brazil	2008	2015	614.0	76.8	6.0%
BSC	Private	Planted Forests for Paper	China	Brazil	2010	2015	551.0	91.8	5.3%
MI*	Public	FNE Verde	Brazil	Brazil	2006	2011	454.0	75.7	4.4%
Arauco	Private	Montes del Plata	Chile	Uruguay	2011	2013	350.0	116.7	3.4%
Stora Enso	Private	Montes del Plata	Sweden	Uruguay	2011	2018	350.0	43.8	3.4%
Other							6,011.5	2,235.1	58.3%
Total							**10,312.5**	**2,939.8**	**100.0%**

* See Chapter 5 for Details

Source: Arauco (2010); DANA (2009); Eldorado (2012); Fibria (2011); MI (2009); STCP (2012); Suzano (2012); StoraEnso (2011); Uruguay XXI (2011); Vale (2012b), adapted by the Consultant.

The Suzano Papel e Celulose is a forest-based Brazilian company and one of the largest vertically-integrated pulp and paper producers in Latin America. Suzano is a leader in the cardboard market in Latin America, is considered one of the 10 largest pulp producers of the market, and the second largest producer of eucalypt pulp in the world. In 2008, the company produced 2.7 million tons of pulp and paper. In addition, its investments in biotechnology and biomass for energy generation consolidate the expansion of its business. The company has five industrial plants located in the states of Bahia and São Paulo, in Brazil. All its production comes from eucalypt forests planted in southern Bahia, northern Espírito Santo, São Paulo, northeast of Minas Gerais, and east and west Maranhão. About 40% of their lands are natural forests permanent preservation areas.Until 2015, with the new cycle of plantation growth, Suzano will

increase from the current 2.9 million tons per year to 7.2 million tons a year with the establishment of 3 new pulp production plants, in Maranhão, Piauí, and Tocantins. Additionally, it is investing in 3 wood pellet production lines in Maranhão, aiming exports for European costumers. Total investments in eucalypt planted forests in these new areas should consume about USD 1.3 billion until 2015 (Suzano, 2012).

The Eldorado Celulose e Papel is also a Brazilian company that is building the largest single line pulp mill in the world, at the Tres Lagoas municipality, State of Mato Grosso do Sul, Brazil. After its completion, planned for the end of 2012, the industry will have the capacity to produce 1.5 million tons of bleached pulp per year. The destination of this production, which will use eucalypt wood from planted forests as the raw material, are paper producers markets located in South America, North America, Europe and Asia. The estimated total investment is USD 2.6 billion, of which USD 697 million in forests to be established during the 2011-2015 period (Eldorado, 2012).

In 2007, the mining company Vale created the project Vale Florestar to promote reforestation of degraded areas with native and exotic species. In partnership with BNDES, pension funds of Caixa Econômica Federal (FUNCEF) and of Petrobras (PETROS), in 2010, the initiative developed to a great extent, creating the Vale Florestar S.A., one of the largest reforestation funds in Brazil. The fund is used to recover degraded areas of the Amazon region, specifically in the State of Pará, Brazil. The objective is to encourage long-term forestry undertakings. In a multiplier effect, these undertakings would disseminate sustainable activities, helping minimize harm to native forest. Since its start, 69 farms were leased, totalling an area 98,900 hectare. Out of this area 62,500 hectares are designated for protection and recovery of natural forests, and 36,400 hectares to forest plantations. The total eucalypt planted area may reach in the future 200 thousand hectares, requiring investments of USD 614 million between 2008 and 2015 (VALE, 2012b).

In 2003, the Sateri Holdings, a Chinese company, acquired the Brazilian companies Klabin Bacell and Copener Florestal, creating a new company called the Bahia Specialty Cellulose (BSC). In 2008, the company consolidated its expansion project, with the establishment of its second industrial line, increasing its production capacity from 115 thousand tons per year to 465 thousand tons. A new expansion will raise the capacity for 600 thousand tons. In order to meet current demand, the company counts with a total land area of 150,000 hectares, of which 84 thousand hectares are forest plantations. In addition, its forest out growers program totals 7.6 thousand hectares, totalling 91.6 thousand hectares of effective planted area as a basis for wood supply. This expansion will increase the eucalypt planted area to over 91 thousand hectares, which will require investments of USD 551 million between 2010 and 2015 (BSC, 2012).

The Arauco, a Chilean private company, sources the raw material for all its products (pulp, paper, wood panels and lumber) from more than 1.6 million hectares of proprietary forest plantations located throughout Chile, Argentina, Brazil and Uruguay (Arauco, 2010). Arauco and Stora Enso joint-venture company the Montes del Plata are building a pulp mill with the production capacity of 1.3 million tons per year at Punta Pereira, Colonia, Uruguay. The total investment is estimated to be approximately USD 1.9 billion, where USD 700 million in eucalyptus planted forests. The new mill is expected to be operational by the end of 2013. The eucalyptus pulpwood will be sourced essentially from Montes del Plata's own plantations. The company currently owns 254,000 hectares of land in Uruguay, of which 138,000 hectares are planted with eucalyptus, about 100,000 hectares are protected and 16,000 hectares are suitable for planting (Stora Enso, 2011).

- **Opportunities**

The increasing interest from the private sector in investing in planted forests shows that this is an economically feasible and a competitive business opportunity. The role of the public sector to enhance investments is to improve the business environment to further attract investments in

planted forests. Main focus to improve business environment are basically on: (i) Governance; (ii) Land titling and (iii) Capacity building.

Additionally, there must be mechanisms for attracting forest-related industries to the forest plantations regions. Development policies need to focus on actions to increase the competitiveness of operations. This involves the identification of supra, inter and intra sectorial factors that are affecting competitiveness and a political commitment to implement actions to change.

If properly processed, non-wood forest products may become the supply basis for several economic sectors and productive chains. For example, there are several tree species with high potential for oil production, including Palm Oil, Avocado and Brazil-nut tree. Attracting investments in the implementation of vegetable oil processing plants, several mineral oil sub-products could be replaced, including diesel (replaced for biodiesel), gasoline (ethanol) and plastics (natural polymers). An industrial processing based on forest products would increase their prices, increasing the attractiveness of planted forests.

2.2.11 - Sustainable Development

Sustainable Development is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs (IISD, 2012). Efforts to reach the Millennium Development Goals in integrating principles of sustainable development into country policies and reverse the loss of natural resources and other social and economic targets are hampered by both the inability to agree on decisive and coordinated action in national and multilateral fora, and by unmet commitments for financial support (UNSG, 2012).

Applying the principles of sustainable development to forest finance requires five components: (i) State responsibility for ensuring SFM and its finance; (ii) Good governance, public participation and access to justice and information; (iii) Poverty reduction, equity and shared responsibilities; (iv) A precautionary approach to natural resources, ecosystems and human health; and (v) Integration and effective relationships, particularly in relation to human rights and social, economic and environmental objectives (ETFRN, 2008).

Latin America and the Caribbean region, so far, has not succeeded in narrowing the productivity gaps that exist in relation to developed countries. The region has been unable to adapt its productive structure, which still relies on natural-resource intensive sectors.

The lack of effective environmental management and a regulatory framework reflecting the value of the environment in economic decisions will continue to make it difficult to establish economic growth without environmental degradation. New sources of conflict have arisen, as activities such as large-scale agriculture or mining activities have expanded in environmentally sensitive areas, affecting the social and livelihood structures of local communities and indigenous peoples (ECLAC, 2011).

There is, therefore, a need for funding activities to support forestry and sustainable development projects, especially a new sustainable development approach including forest as the foundation to local development. Sustainable development projects are in concept broad, which cover several areas, including forest plantations, agro-forestry, conservation areas, poverty eradication and others.

- **Identified Investments**

Most direct investments in sustainable development projects are public although there are also projects of the private sector in this field. A total of 21 projects were identified to support sustainable development in LAC region between 2006 and 2012. These projects totalled USD 503 million, an average of USD 119 million per year. The main projects are listed in Table 40. The World Bank Group is the main institution investing in the sustainable development projects in the LAC region.

Table 40 – Main Identified Investments on Forestry-Related Sustainable Development in LAC (2006-2012)

Investor	Sector	Project Title	Countries		Timeframe		Investment (USD Million)		Share
			Investor	Recipient	From	To	Total	Year	
World Bank Group	Public	Mexico Environmental Sustainability Development Policy Loan	United Nations	Mexico	2008	2011	300.8	75.2	59.8%
World Bank Group	Public	AR Sustainable Natural Resources Management (formerly Sustainable Forestry Development)	United Nations	Argentina	2008	2012	60.0	12.0	11.9%
World Bank Group	Public	Mainstreaming Market-Based Instruments for Environmental Management Project	United Nations	Costa Rica	2006	2012	30.0	4.3	6.0%
GEF	Public	Promotion of sustainable and climate-compatible rural development in Lara and Falcon States	United Nations	Venezuela	2010	2012	25.6	8.5	5.1%
EuropeAid	Public	Promoting the Environmental Dimension of Sustainable Development	European Union	Brazil	2006	2011	23.8	4.0	4.7%
Other							62.7	14.9	12.5%
Total							**502.8**	**118.9**	**100.0%**

Sources: BMZ (2008, 2010), EC (2010); FAO (2012c); GEF (2010c); IDB (2012b); ITTO (2011b); World Bank (2012c), adapted by the Consultant.

The main sustainable development public project identified in LAC for the 2006-2010 period is the "Mexico Environmental Sustainability Development Policy Loan", financed by the World Bank Group, to be implemented between 2008 and 2014, with a total value of USD 300.8 million. This value corresponds to 58% of the total investment identified in sustainable development projects.

The initiative supports the Government of Mexico's in a medium-term, outcome-based program to promote sustainable development. The objective is to balance socio-economic development with environmental protection and improvement. This project integrates environmental concerns in the sectorial policies and programs of key development sectors: tourism, energy, forestry, water, agriculture, and housing as prioritized by the government of Mexico (World Bank, 2012c).

Another large project on sustainable development supported by the World Bank Group in the LAC region is the "AR Sustainable Natural Resources Management (formerly Sustainable Forestry Development)", carried out in Argentina between 2008 and 2012, with a total budget of USD 60 million. The objectives are to improve the sustainable and efficient management of forest resources, conserve biodiversity in protected areas and forest landscapes, and integrate small producers into forestry development and conservation. The project has three components:

(i) Native forests and biodiversity; (ii) Sustainable plantation forestry; and (iii) Protected areas and conservation corridors.

The first component - native forests and biodiversity- refers to developing a national forestry program including participation of stakeholders and institutional capacity of the native forests directorate. The component sustainable plantation forestry, includes: a) Establish institutional and policy frameworks conducive to more sustainable and shared growth in the plantations and agroforestry sector; b) Raise environmental awareness on plantation development; c) Improve plantation and agroforestry productivity; and d) Support the integration of smallholders and small producers into the plantation and agroforestry production cycle while promoting sustainable practices among producers. The third component consists of protected areas and conservation corridors. The major objective of this component is to strengthen management capacity of eleven priority protected areas and to upgrade the National Parks Administration´s capacity in Buenos Aires (World Bank, 2008b).

- **Opportunities**

The forestry component should be incorporated in all sustainable development initiatives carried out by the public sector, and required as pre-requisite for all private sector activities. To this end, governance, capacity building and forest policies should be improved.

2.2.12 - Sustainable Land Management

Sustainable Land Management (SLM) refers to the use of renewable land resources (soils, water, and forests) for the production of goods to meet changing human needs while at the same time protecting the long-term productive potential of these resources. SLM tries to harmonize the complementary but often conflicting goals of production and environmental protection (CDE, 2008).

SLM has been identified as a comprehensive approach to tackle land degradation (soil erosion, deterioration of soil properties and long-term loss of natural vegetation), with the potential of making significant differences in the short, medium and long-term. It is the adoption of land use systems that, through appropriate management practices, enable land users to maximize the economic and social benefits from land while maintaining or enhancing the ecological functions of the land resources.

Land degradation results from climatic variations and human activities; its causes are multiple, interrelated and complex. It has many on- and off-site impacts. On-site impacts occur when the land productivity is reduced through salinization and erosion; off-site impacts include siltation of water storage facilities, increased suspended sediments in waterways, and landslides. Land degradation, including deforestation, accounts for at least a fifth of global greenhouse gas emissions, and consequently contributes to climate change (UNCCD, 2011a).

- **Identified Investments**

Sustainable land management projects are mostly financed by the public sector. The consultant identified 45 public financed projects related to sustainable land management in LAC carried out between 2004 and 2016. The total investment in these projects totalled more than USD 1.9 billion, an average of USD 307 million per year during this period.

Information on the main projects on sustainable land management is presented in Table 41. The World Bank Group is the main institution investing in sustainable land management projects in the LAC region.

Table 41 – Main Identified Investments in Sustainable Land Management in LAC (2004-2016)

Investor	Sector	Project Title	Countries		Timeframe		Investment (USD Million)		Share
			Investor	Recipient	From	To	Total	Year	
World Bank Group	Public	First Programmatic Development Policy Loan for Sustainable Environmental Management	United Nations	Brazil	2009	2015	1,300.0	185.7	67.1%
ANAM[1]	Public	Conservation of Watersheds	Panama	Panama	2004	2008	125.0	25.0	6.5%
MARENA[1]	Public	PFN	Nicaragua	Nicaragua	2006	2012	114.1	16.3	5.9%
UNCCD[2]	Public	Sustainable Land management	United Nations	Chile	2010	2014	84.1	16.8	4.3%
SCCF[2]	Public	Adaptation of Nicaragua's Water Supplies to Climate Change	United Nations	Nicaragua	2012	2016	38.1	7.6	2.0%
Other							275.7	55.7	14.2%
Total							**1,936.9**	**307.2**	**100.0%**

[1] See Chapter 5 for details; [2] See Chapter 3 for details

Sources: ABRAF (2011); ANAM (2009); BMZ (2008, 2010), FAO (2012c); GEF (2011d; 2010c); ITTO (2011b); MARENA (2011); UNCCD (2011a); World Bank (2012c), adapted by the Consultant.

The main public project on sustainable land management identified in LAC is the "First Programmatic Development Policy Loan for Sustainable Environmental Management", financed by the World Bank Group in Brazil between 2009 and 2015, with a total budget of USD 1.3 billion, corresponding to 95% of the total land management projects.

This development policy loan is the first operation in a series of two loans during the period 2008-2010, aiming to support the Government of Brazil efforts to: (i) Improve the effectiveness and efficiency of policies and guidelines of the Brazilian environmental management system; and (ii) Further integrate principles of environmentally sustainable development in the development agenda of key sectors. It concentrates efforts to promote the sustainable management of agricultural lands, forests, and water resources; reduction of deforestation in the Amazon; reduction of the environmental degradation of land, water, and other resources which are key determinants of the well-being of the poor; and promotion of renewable products (World Bank, 2012c).

- **Opportunities**

Many of the causes of land degradation are economic, that is, keeping the land needs to reap enough benefits to justify investing in land conservation activities. Therefore, the economic and financial incentives for land users should be changed accordingly to halt and reverse land degradation. Land users will invest in sustainable land use practices once they recognize that there is a direct benefit.

Under current agricultural pricing schemes it is in many cases impossible for rural producers to cover both the total costs of production and those of replenishing the natural capital. This in turn creates pressures on land use, leading to the expansion of agricultural frontier generating land degradation. Therefore, if local producers could be reimbursed for part of the costs of replenishing their natural capital, the degradation processes could be reverted. To this end, financial resources are needed to allow more efficient use of rural energy, the improvement of agricultural and forestry practices, the conservation and expansion of forested areas. The value of environmental services is being recognized, however there still exists the challenge of mainstreaming them into existing markets (UNCCD, 2011a).

Other causes of land degradation are educational. In many regions of Latin America and the Caribbean, slash and burn agriculture is still the most common land management technique. This is leading to the desertification of several regions. Capacity building initiatives could be an alternative to help solve this issue if farmers become aware that burning the soil degrades their land assets, decrease fertility and crop production.

3 – TRENDS AND IMPLICATIONS OF NEW AND EMERGING FOREST-RELATED FINANCING INITIATIVES

This chapter presents a summary of the most relevant new and emerging forest-related financing initiatives identified, including discussion on the trends and implications. Some of the identified initiatives might only have indirect connection with forest financing.New forest-related financing initiatives are mostly associated to International Organizations, Multilateral Environmental Agreements (MEAs), Joint Initiatives, Regional and National Initiatives.

3.1 – INTERNATIONAL ORGANIZATIONS INITIATIVES

The most relevant new mechanisms of international organizations to finance forest-related activities identified by the consultant are presented below.

3.1.1 – Global Environment Facility (GEF)

The GEF was established in 1991 as a USD 1 billion pilot program in the World Bank for the protection of the global environment and promotion of environmental sustainable development. Since its inception, GEF has been funding forest projects. In 1994, GEF was restructured and moved out of the World Bank system to become an independent organization; thus, enhancing the involvement of developing countries in the decision-making process and in implementation of the projects (GEF, 2012a).

As part of the restructuring, GEF was entrusted as the financial mechanism for the UN multilateral environmental agreements (MEAs), such as CBD, UNFCCC, and UNCCD, among others. The GEF has funded projects that can be broadly classified into three categories: (i) Forest conservation (primarily protected areas and buffer zones); (ii) Sustainable use of forests (forest production landscapes); and (iii) Sustainable forest management (addressing forests and trees in the wider landscape) (GEF, 2009).

The GEF Trust Fund started in 1991 was restructured in 1994, and has been replenished every four years on the basis of donors' commitments. Table 42 shows the amount of replenishment for each period. The last replenishment, GEF-5 (USD 4.25 billion), had an increase of more than 100% from GEF-1 (IDB, 2011c).

Table 42 - Replenished Amount by GEF Replenishment Period

STAGE	PERIOD	AMOUNT (USD MILLION)	CHANGE
GEF-1	1994-1998	2,000	-
GEF-2	1998-2002	2,750	38%
GEF-3	2002-2007	3,000	9%
GEF-4	2007-2010	3,135	4%
GEF-5	2010-2015	4,250	36%
TOTAL		**15,135**	**113%**

Source: IDB (2011c), adapted by the Consultant.

During the GEF-4 period (2007–2010), the GEF Trust Fund approved grants totalling USD 2.7 billion for 776 projects. Latin America and Caribbean countries accounted for 21% of this total (IDB, 2011c).

For LAC the GEF-5 totalled USD 679 million, corresponding to 16% of GEF's total resources, and represented a 51% increase over GEF-4 resources. As a result of this increased replenishment, all focal areas received a much higher allocation of resources than in GEF-4. For Land Degradation, Desertification and Deforestation projects, which primarily support priorities of the UNCCD, the total GEF-5 allocation for LAC was USD 61 million, equivalent to 9% of the total. Climate change projects received USD 274 million (40%) and biodiversity the largest portion of the resources (51%), or USD 344 million (UNCCD, 2011b).

GEF funds were initially allocated on a "first-come, first-served" basis, that is, if a project was proposed and met the proper criteria, then the project was approved for implementation. However, a new way of allocating the funds, the Resource Allocation Framework (RAF), was introduced in 2006. This new allocation strategy was based on both on a country's potential to generate global environmental benefits and its performance.

For the GEF-4 period (2007-2010), the RAF covered two of the six focal areas: biodiversity and climate change. It was assessed that this framework strengthened country-driven approach and partnerships with agents, predictability of a recipient country, and transparency in the fund allocations. Through its pilot SFM Program in GEF-4, the GEF took early action in the REDD+ and LULUCF areas by providing resources for pilot projects.

In 2007, the GEF launched the Tropical Forest Account, a pilot scheme promoting country investments, with US$ 40 million initiative focused on the three regions of large tracts of intact tropical forests (Amazonia, the Congo Basin, and Papua New Guinea/Borneo) and gave rise to comprehensive projects and programs, such as the GEF Strategic Program for SFM in the Amazon Basin. For instance, a US$ 9 million GEF/FAO project, which leveraged US$ 56 million, to help the Brazilian Forest Service to strengthen its national policy and knowledge framework in support of SFM and REDD+.

In Latin America, the GEF has also approved a US$ 3 million project to establish a market mechanism for promoting and facilitating voluntary GHG emissions mitigation and offsetting in Colombia. This GEF/IDB initiative contains, as a central element, national capacity building for REDD+ and the generation of Verified Emission Reductions (VERs) from REDD+ pilot projects (GEF, 2010d, IDB, 2011c).

For the GEF-5, the resource allocation system called the STAR or System for Transparent Allocation of Resources was upgraded to cover three focal areas, which are biodiversity, climate change and land degradation directed towards forest activities. The GEF-5 strategy will expand a financial incentive mechanism pioneered under GEF-4 committed to forests, which will include new and innovative financing opportunities for SFM and REDD-plus (GEF, 2010e, IDB, 2011c).

Under GEF-5 all types of forests will be eligible for funding under the SFM/REDD+ Program. The Program adopts the SFM concept, as embraced by the Collaborative Partnership on Forests (CPF) and stated in the NLBI of the UNFF (GEF, 2010e). The GEF-5 expects to expand its support to projects reducing deforestation. To this end, the GEF-5 has created a separate US$ 250 million funding envelope for the SFM/REDD+ program. This envelope operates as an incentive mechanism for developing countries to invest up to US$ 750 million of their allocations from biodiversity, climate change and land degradation for more comprehensive SFM/REDD+ projects and programs.

Altogether, the GEF will make up to US$1 billion for the implementation of an earmarked SFM/REDD+ program throughout the period 2010–2014. This investment is expected to leverage substantial additional funding from external sources. The goal for GEF-5 investment in SFM is to achieve multiple environmental benefits from improved management of all types of forests (GEF, 2010d).

GEF is today the largest funder of projects to improve the global environment. The GEF has allocated USD 10 billion, supplemented by more than USD 47 billion in co-financing, for more than 2,800 projects in more than 168 developing countries. Through its Small Grants

Programme (SGP), GEF has also made more than 13,000 small grants directly to civil society and community-based organizations, totalling USD 634 million (GEF, 2012a).

GEF has since 1991 supported over 300 projects and programs dealing with forest conservation and management in developing countries, particularly in Africa, and LAC. Since 1991 GEF has allocated approximately USD 1.5 billion to forest initiatives, supplemented by more than USD 4.5 billion in co-financing from other sources. The GEF has continuously increased its financial flows for forest-related activities (GEF, 2009). GEF-4 investments in forestry in LAC between 2008 and 2012 totalled USD 661 million (USD 186 million per year) allocated in 33 different projects. The five main projects represented 36% of the total forestry-related projects (see Table 43).

Table 43 – Main GEF Forestry-Related Investments in LAC (2008-2012)*

PROJECT TITLE	COUNTRIES	PERIOD		INVESTMENT (USD MILLION)		SHARE
		From	To	Total	Year	
Amazon Region Protected Areas Program Phase 2	Brazil	2010	2012	87.59	29.20	15.66%
SFM Strengthening National Policy and Knowledge Frameworks in Support of Sustainable Management of Brazil's Forest Resources	Brazil	2008	2012	43.80	8.76	4.70%
Building a Comprehensive National Protected Areas System: A Financial and Operational Framework	Chile	2008	2012	38.92	7.78	4.18%
SFM Catalysing the Contribution of Indigenous Lands to the Conservation of Brazil's Forest Ecosystems	Brazil	2009	2012	37.45	9.36	5.02%
Strengthening Biodiversity Conservation through the National Protected Areas Program	Peru	2010	2012	32.67	10.89	5.84%
Others				420.67	120.44	64.60%
TOTAL				**661.10**	**186.43**	**100.00%**

* Only GEF-4

Source: GEF (2012b), adapted by the Consultant.

Generally, the GEF agencies have played a key role in approval, execution and supervision of a GEF project. Initially, three institutions were designated as the Implementing Agencies of the GEF funds (UNDP, UNEP and WB). In order to make use of the comparative advantages of each agency, since 1999, the GEF council expanded these opportunities to seven other institutions as executing agencies (FAO, IFAD, UNIDO, ADB, AfDB, EBRD, and IDB).

In 2006, a reform was carried out to provide a level playing field among the GEF agencies. Since then, all 10 GEF agencies currently operate based on their comparative advantages under equalized status.

Table 44 shows the GEF assessment of comparative advantages by focal area and type of intervention for each institution. GEF considers the World Bank and Regional Development Banks to have comparative advantages in investment activities, whereas the FAO, IFAD, UNDP, UNEP and UNIDO have comparative advantages in capacity-building and technical assistance, and the other types of interventions. Specifically, the IDB has comparative advantages in all focal areas of investment activity, with the exception of ODS (IDB, 2011c).

One important GEF initiative is the Earth Fund. The Earth Fund was approved by the GEF in 2008 as a pilot project to catalyse private sector engagement in the activities of the GEF. The

primary mandate of the fund is to mobilize capital for innovative projects, technologies and business models to foster environmentally sound and sustainable economic development.

The fund has a form of umbrella framework, whose program is comprised of a platform and individual projects within the platform. GEF agencies, NGOs and foundations meeting the GEF fiduciary standards are eligible to be platform-managing agencies, which propose platforms as well as implement, monitor and evaluate activities for platforms and related individual projects.

Table 44 - Comparative Advantages of Agencies by Focal Area and Type of Intervention Regarding Forestry

Focal Area	Intervention Type		
	Investment	Capacity Building	Scientific And Technical
Biodiversity	IDB, WB	FAO, IFAD, UNDP, UNEP, UNIDO	FAO, UNEP, UNIDO
Climate Change	IDB, IFAD, WB	FAO, IFAD, UNDP, UNEP, UNIDO	FAO, UNEP, UNIDO
Land Degradation	IDB, IFAD, WB	FAO, IFAD, UNDP	FAO, UNEP

Source: IDB (2011c), adapted by the Consultant.

The Earth Fund's governing body is the GEF Council, while the GEF Earth Fund Board provides strategic guidance and support, and the GEF Secretariat acts as Secretariat of the Fund. On the other hand, the IFC is the trustee of the fund and allocates resources to endorsed platforms according to instructions from the Council and the GEF's CEO.

The Earth Fund's financing is derived from a variety of sources including GEF allocations and GEF Earth Fund sponsors' contributions at the GEF Earth Fund level, as well as contributions from platform-managing agencies and others within the platform. In all cases, each platform should have the minimum required co-financing ratio of 1:3 between GEF funding and other funding.

The Earth Fund additionally employs non-grant instruments such as loans, guarantees, equity and other types of investments as well as grant funding for technical assistance, capacity building, implementation costs and knowledge management. Under the GEF-4 framework, USD 50 million from the GEF Trust Fund were capitalized to the Earth Fund and approved for five Earth Fund platforms. Under the GEF-5 framework, USD 80 million from the GEF Trust Fund were allocated to the Earth Fund for its recapitalization, which will assist eight platforms at an average of USD 10 million each (IDB, 2011c).

3.1.2 - Inter-American Development Bank (IDB)

The IDB established in 2007 the Sustainable Energy and Climate Change Initiative (SECCI) Fund. The initiative is based on four strategic pillars: (i) Renewable energy and energy efficiency; (ii) Sustainable bio-fuel development; (iii) Access to carbon markets; and (iv) Adaptation to climate change.

Eligible projects include investment grant projects as well as technical cooperation projects, and recipient entities may include national and sub-national government organizations, public and private corporations, private project developers, NGOs, and academic and research institutions in the region.

Funding resources consist of both the IDB (SECCI IDB Fund) and international donor countries such as Finland, Germany, Italy, Japan, Spain and United Kingdom (SECCI Multi-Donor Fund). The IDB contributed with the amount of USD 20 million from its Ordinary Capital for three fiscal years (2007-2009), and the additional replenishment of USD 40 million was proposed for a period of three years until the beginning of 2012. The pledged amount of SECCI Multi-Donor

Fund as of December 2010 was a total of USD 27 million, and at least USD 30 million was proposed for the three years.

By the end of 2010, a total of 110 projects were approved with grants of USD 58.7 million from both the SECCI IDB Fund and the SECCI Multi-Donor Fund. The SECCI unit also plays a role as focal point and liaison to the Climate Investment Funds (CIF). That is, the CIF projects for the LAC countries leverage IDB resources through the SECCI Funds. This aims at maximizing uses of the IDB's skills and instruments for low-carbon economies and integrating climate resilience into development plans and sector policies in the LAC region. The project cycle and procedure of the funds follow the IDB's policies and procedures applied to regular technical cooperation operations (IDB, 2011c).

Funding is classified by strategic areas. Activities involving adaptation to climate change, sustainable transport and access to carbon market greatly increased from 2009 to 2010. Meanwhile, the scale of grants to biofuel and REDD sectors decreased in 2010.

The LAC largest economies (Brazil, Mexico, Argentina, Venezuela, Colombia, Chile and Peru) accounted for 61% of the funds. By geographical location, the Southern Cone, Andean Group, Central America, and Caribbean accounted for 29%, 26%, 26% and 19%, respectively. The three largest countries' share of SECCI Funds came to about 44% of total grants for region (IDB, 2011a).

3.1.3 - World Bank Group

The new and emerging forest-related financing initiatives under the World Bank are: (i) BioCarbon Fund (BioCF); (ii) Community Development Carbon Fund (CDCF); (iii) Climate Investment Funds (CIF); (iv) Forest Law Enforcement and Governance (FLEG); (v) Growing Forest Partnership (GFP); (vi) Prototype Carbon Fund (PCF); and (vii) Umbrella Carbon Facility (UCF). Information on these initiatives is presented below.

- **BioCarbon Fund (BioCF)**

The BioCarbon Fund (BioCF) of the World Bank is a private-public initiative mobilizing resources to establish projects that sequester or conserve carbon in forest and agro-ecosystems. Window 1 of the BioCF focuses on CDM-eligible projects, and Window 2 on non-CDM projects, including REDD+ and sustainable land management, supporting new activities and expand the carbon market. In 2011, the BioCF had a portfolio of over 20 A/R (Afforestation and Reforestation) CDM, 3 REDD+ and 2 sustainable land management projects. The Fund, of USD 90 million, became operational in 2004.

The role of the World Bank in the beginning was to catalyse a market for the increased participation of public and private buyers. In 2004 and 2005, when there were no approved methodologies for A/R CDM, the first 17 projects entered the BioCF portfolio. Eight BioCF projects developed their own methodologies. These early projects provided an opportunity to improve the CDM rules, which has contributed to the publication of guidance, clarifications and tools by the UNFCCC (UNEP, 2011b).

The experiences with A/R CDM projects show that these initiatives are not only mitigating climate change, but also improving rural livelihoods, conserving biodiversity, and restoring degraded lands. Their capacity to promote sustainable land management activities stabilizes deforestation patterns and reduces pressure on natural forests, and should be seen as an effective tool for REDD+. On average, each dollar of carbon finance in the BioCF portfolio has leveraged approximately 7 dollars of underlying investment, half of which has come from private sources (this is the ratio of the net present value of the Emissions Reductions Purchase Agreement ERPA, discounted at 10%, to the total underlying investment). It should however be noted that most project entities managed to blend different sources of investment to finance their projects in the absence of carbon finance participating investors would not have financed the projects (UNEP, 2011b).

The BioCF has signed 17 contracts involving afforestation and reforestation, four of which have been registered under the Kyoto Protocol's CDM mechanism, and the remainder of which are in advanced stages of preparation. Fifteen of the projects have signed an emission reductions purchase agreement. Tranche 2 consists of 8 afforestation/ reforestation projects, which are expected to generate 3.02 million tons in carbon emission reductions. It currently has a capital of USD 90 million (World Bank, 2010c).

Some forestry-related investment projects in LAC made by the BioCF between 2006 and 2011 were identified. Information available is presented in Table 45.

Table 45 – Projects of BioCF in LAC

PROJECT TITLE	COUNTRIES		BioCF ERPA Emission Reductions tCO2e	Total Project Emission Reductions Generation tCO2e
	Investor	Invested		
Plantar Sequestration and Biomass Use (BioCF T1)	United Nations	Brazil	1,100,000	5,398,923
AES Tietê Afforestation/Reforestation Project in the State of São Paulo, Brazil	United Nations	Brazil	400,000	1,668,096
San Nicolás Agroforestry	United Nations	Colombia	120,000	122,697
Reforestation of Degraded Land in the Caribbean Savannah	United Nations	Colombia	246,992	794,171
Coopeagri Agroforestry	United Nations	Costa Rica	68,228	154,171
TOTAL			**1,935,220**	**8,138,058**

Source: GEF (2012b), adapted by the Consultant.

- **Community Development Carbon Fund (CDCF)**

The Community Development Carbon Fund (CDCF) has now 33 emission reductions purchase agreement with a value of USD 129 million. Fifty-three per cent of its portfolio is committed to projects in the world's poorest countries. No forestry-related investments in LAC made by the CDCF from 2006 to 2011 were identified.

- **Climate Investment Funds (CIF)**

The Climate Investment Funds (CIF) are comprised of two trust funds, the **Clean Technology Fund (CTF)** and the **Strategic Climate Fund (SCF)**, both approved in July 2008(CIF, 2012). The CTF seeks to provide developing countries with scaled-up financing to promote low-carbon technologies.

Investment areas of this Fund include the power sector, transportation, and energy efficiency in buildings, industry and agriculture. The recipient countries must be eligible for ODA, and an MDB should have a lending program and/or an on-going policy dialogue with the country. The financing instruments include grants, concessional loans, guarantees and equity with significant co-financing from the private sector, MDBs and other sources. Details on the trust funds are presented below:

i. Clean Technology Fund (CTF): as of September 2010, USD 4.35 billion of the CTF amount for 13 Investment Plans and the corresponding projects were approved in 12 countries. By region, LAC accounted for the smallest distribution of 14.9 %of the total endorsement (IDB, 2011c).

ii. Strategic Climate Fund (SCF): was designed to finance new pilot development approaches and scaled-up activities in addressing specific climate change issues or sector responses. The country eligibility and instruments of financing of these programs are exactly same as those of the CTF, and the governance structure is also similar to

that of the CTF except for the existence of an additional sub-committee for each program. By September 2010, the total contributions pledged to the SCF reached USD 1.8 billion, and 24 projects were approved. The project cycle of the SCF mostly follows the procedures of the CTF, except that the SCF Sub-Committee conducts the roles such as approval, financing and monitoring in place of the SCF Trust Fund Committee (IDB, 2011c). The SCF serves as a primary fund to support targeted programs with dedicated funding to pilot new approaches with potential for scaled-up, transformational action aimed at a specific climate change challenge or sectorial response. Targeted programs under the SCF include:

a. *Forest Investment Program (FIP)*: approved in May 2009, aims to support developing countries' efforts to reduce emissions from deforestation and forest degradation by providing scaled-up bridge financing for readiness reforms and public and private investments. It finances programmatic efforts to address the underlying causes of deforestation and forest degradation and to overcome barriers that have hindered past efforts to do so;

b. *Pilot Program for Climate Resilience (PPCR)*: approved in November 2008, was the first Program under the SCF to become operational. It aims to pilot and demonstrate ways in which climate risk and resilience may be integrated into core development planning and implementation. In this way, the PPCR provides incentives for scaled-up action and initiates transformational change;

c. *Program for Scaling-Up Renewable Energy in Low Income Countries (SREP)*: approved in May 2009, is aimed at demonstrating the economic, social and environmental viability of low carbon development pathways in the energy sector by creating new economic opportunities and increasing energy access through the use of renewable energy (CIF, 2012).

The FIP program financed in 2011 three pilot country case studies in the LAC region: Brazil, Mexico, and Peru. The IDB is leading the program in Peru, and co-leading the program in Brazil (IDB, 2012c).

The pledging level as of March 2011 to the FIP was USD 577 million. Out of this total USD 404 million of the pledges is provided as grant contributions, and USD 173 million as capital contributions.

At its meeting in November 2010, the FIP Sub-Committee discussed and approved the allocation of FIP Resources to the FIP Pilot Countries, and agreed on allocating FIP resources as follows: (i) A reserve of USD 150 million in grant resources has been set aside from the current level of pledges; (ii) All allocation amounts are indicative for planning purposes. Approval of funding will be on the basis of high quality investment strategies and associated project and program proposals; (iii) Four levels of funding ranges were established, taking into account the current pledges to the FIP (CIF, 2011).

- **Forest Law Enforcement and Governance (FLEG)**

The Forest Law Enforcement and Governance (FLEG) created the political "space" at national and regional levels to address illegal logging-related issues, in partnership with major stakeholders from civil society and the private sector. The ministerial-level political processes aimed to mobilize international commitment from producer, consumer and donor governments to increase efforts to combat illegal logging and the associated trade, and corruption in the forest sector (World Bank, 2010b).

The World Bank's FLEG Program initiated support of FLEG processes in Central America and the Amazon countries in 2004, carrying out several country studies to create an adequate analytical base for a regional process. Building on experience gained in implementing FLEG processes in other regions, and reflecting the political realities of the region, the Program has followed a different approach in Latin America. The Program strongly relied on existing regional bodies and initial actions with more inclusive debate and analysis of country situations. The

FLEG program in Latin America focuses on two sub regional schemes being developed in the Amazon Treaty countries and Central America.

The Amazon Cooperation Treaty Organization (ACTO) has led in tackling the illegal logging and its associated trade issues in member countries, taking advantage of anchoring programs in an already established regional institution, generating legitimacy of the process. Since 2003, a year after the FLEG Program started operations; the Bank has approved 27 forestry projects for a total of USD 1,665 million. Nineteen of these projects have activities that are "FLEG-like," or well aligned with FLEG. These activities represent investments of USD 184 million, or some 11% of the total project costs (World Bank, 2007a).

- **Growing Forest Partnership (GFP)**

The Growing Forest Partnership (GFP) is a World Bank program that is being developed in Mozambique, Ghana, Nepal, Liberia and Guatemala. GFP aims building up and supporting networks at local, national and international levels. GFP seeks to improve the connections between forests and other sectors looking for to ensure that global discussions about forests include the real and current challenges that forest-dependent people and local forest managers are facing, bringing the voices of local communities and indigenous peoples forward to influence decision-making.

In Guatemala, the GFP project entitled "Improve Forest Governance in Communal Forests" is co-implemented with FAO and has as the main objective to create means and instruments that improve governance of forest resources in the country. GFP promotes a series of actions in different sectors that support a diverse group of actors. Among these are included: forest community organizations, forest consensus roundtable, indigenous peoples that manage and live from forest resources and, finally, nucleus institutions destined for forest management at the national level, including the Ministry of Environment and Natural Resources of Guatemala (MARN), the National Forest Institute of Guatemala (INAB), and the National Commission of Protected Areas of Guatemala (CONAP).

The Guatemala project collaborates with the National Forest Program (NFP) in the instrumentation of the National Forest Agenda. In this regard, it formulates and negotiates with different donors projects that respond to the needs of the main programmatic focuses of INAB and CONAP (GFP, 2010).

GFP is creating a wider network of partners through the establishment of the 'Three Rights Holders' Group' (G3) and through collaboration with 'The Forests Dialogue' (TFD). All of these partnerships have the common objective of investing in locally controlled forestry. This could lead to sustainable forest management that reduces deforestation to mitigate climate change while improving local livelihoods. It is backed by solid evidence that local management and political control over forests is good for both forests and people (GFP, 2011).

- **Prototype Carbon Fund (PCF)**

The Prototype Carbon Fund (PCF) is a partnership between seventeen companies and six governments, which is managed by the World Bank, having become operational in April 2000. As the first carbon fund, its mission is to establish the market for project-based greenhouse gas emission reductions while promoting sustainable development and offering a learning-by-doing opportunity to its stakeholders.

At the end of 2009, the PCF had 23 of 24 projects generating emission reductions and eight of the PCF's CDM projects have issued CERs. In early 2010, the PCF successfully completed its first transfer of Kyoto assets from its projects in Annex I countries. It currently has a capital of USD 220 million (World Bank, 2010c).

- **Umbrella Carbon Facility (UCF)**

The Umbrella Carbon Facility (UCF) consists of five carbon fund administered by the World Bank and 11 members of the private sector. The UCF is an aggregating facility to pool funds for the purchase of emission reductions from large projects. The Facility would purchase greenhouse gas emission reductions from CDM and JI projects.

The UCF consists of a USD1billion fund, 75% of which comes from the private investment. In 2009 the facility delivered 19.2 million tons of carbon dioxide bringing the total amount of emissions purchased, since inception, up to 48.4 million tons of carbon dioxide (World Bank, 2010c).

A large part of new financing initiatives that have some relation with forest-related projects, outside the private sector, are linked to climate change. This includes financing related to UNFCC objectives and relevant financing involving international organizations including the IDB SECCI fund and the World Bank managed projects, such as BioCF, CDCF, CIF, PCF and UCF. Among the international organizations, the GEF has a broader financing scope, including: i) Forest conservation; ii) Sustainable use of forests and iii) Sustainable forest management.

Climate change is also the main focus of new financing related to forests of Joint, Regional and National Initiatives. Among the Joint Initiatives new forest-related financing initiatives are GFA and the UN-REDD Programme.

3.2 - MULTILATERAL ENVIRONMENTAL AGREEMENTS INITIATIVES

Some Multilateral Environmental Agreements (MEAs) considers financing forest-related activities. Details on the most relevant are presented below.

3.2.1 – Convention on Biological Diversity (CBD)

The Convention on Biological Diversity (CBD) entered into force in December 1993. A total of 193 countries were Parties to the CBD as of January 2012. The CBD has 3 main objectives: i) Conservation of biological diversity; ii) Sustainable use of the components of biological diversity; and iii) Fair and equitable sharing of benefits arising out of the utilization of genetic resources.

The CBD has seven thematic programs of work which correspond to some of the major biomes on the planet. Each program establishes a vision for, and basic principles to guide future work. They also set out key issues for consideration, identify potential outputs, and suggest a timetable and means for achieving these. Implementation of the work programs depends on contributions from Parties, the Secretariat, relevant intergovernmental and other organizations.

Periodically, the Conference of the Parties (COP) and the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) revises the state of implementation of the work programs: i) Agricultural Biodiversity; ii) Dry and Sub-humid Lands Biodiversity; iii) Forest Biodiversity; and iv) Inland Waters Biodiversity (CBD, 2012a).

The CBD addresses forests directly through the expanded program of work on forest biodiversity, adopted in 2002. The CBD forest work program (COP Decision VI/22) constitutes a set of 14 goals, 27 objectives and activities aimed at the conservation of forest biodiversity, the sustainable use of its components and the fair and equitable use of the benefits arising from the utilization of forest genetic resources. The work program on forest biodiversity consists of three program elements: (i) Conservation, sustainable use, and benefit-sharing; (ii) Institutional and socio-economic enabling environment; and (iii) Knowledge, assessment, and monitoring (CBD, 2012a).

The CBD emphasizes the importance of the conservation, sustainable use and management of forests in achieving their respective objectives. The CBD/COP-8 (2006) approved a core budget for the trust fund for the CBD, a budget of USD 10.9 million for 2007 and USD 11.4 million for 2008. COP 8 also approved for the Special Voluntary Trust Fund for Additional Voluntary Contributions in Support of Approved Activities (BE) at a level of USD 3.5 million in 2007 and

USD 2.2 million in 2008. It further approved USD 3.4 million and USD 5.5 million for 2007 and 2008, for the Special Voluntary Trust Fund for Participation of Parties in the Convention Process (BZ).

Funds for the BE and BZ need to be raised separately by the CBD Secretariat before the activities can be undertaken (CBD, 2007). The GEF is entrusted as the financial mechanism for the CBD. No specific data on financial investments through CBD projects, directly on forest related initiatives for LAC region over the last 5 years were identified by the consultant.

3.2.2 – United Nations Convention to Combat Desertification (UNCCD)

The UNCCD was adopted in 1994 and 194 countries are Parties to the Convention. The objective of this Convention is to combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification, particularly in Africa, through effective action at all levels, supported by international cooperation and partnership arrangements, in the framework of an integrated approach which is consistent with Agenda 21, contributing to sustainable development in affected areas (CCD, Article 2).

The Global Mechanism (GM) is a subsidiary body of the UNCCD which acts as a catalyst to mobilize resources to support developing countries to increase investments in Sustainable Land Management (SLM), in order to help reverse, control and prevent land degradation and desertification.

The GM also provides countries with specialized advice on accessing finance for SLM from a range of public and private sources, both domestic and international. Moreover, it fosters Partners' understanding of current and emerging financial modalities and procedures for development. The aim is to mainstream SLM concerns into national and sub-regional processes, while developing conducive financing strategies for UNCCD implementation in the region. The GM draws the experiences and capacities of countries such as Argentina, Costa Rica, Brazil, Mexico and Cuba to promote south-to-south cooperation for UNCCD implementation in countries that are initiating and/or consolidating their own processes (GM, 2007).

The LAC region is known for its rain forests, however about one-quarter is desert or drylands (20.5 million km^2). The main causes of land degradation are unsustainable agricultural practices, inadequate legal issues, unsuitable use of soils, overgrazing, intensive logging, forest fires, and frequent droughts, among others. Consequently, the losses of ecosystem productivity reduce overall economic productivity and impoverish livelihoods. Land degradation and severe droughts make the LAC countries vulnerable to extreme events, delaying their sustainable development (UNCCD, 2008).

In 2002, the decision by the World Summit on Sustainable Development recognized the complementary roles of the GEF in providing and mobilizing resources and called on the Second GEF Assembly to consider making the GEF a financial mechanism of the UNCCD. Shortly after, the GEF Assembly declared that GEF should be available as a financial mechanism of the UNCCD if the COP should so decide. At the UNCCD COP 6, through the Decision 6/COP.6, the GEF was accepted as a financial mechanism of the UNCCD.

The GEF as financial mechanism of the UNCCD directly contributes to implementation of the Convention, including its Ten-year (2008–2018) Strategic Plan and Framework adopted by the COP-8. Although the Strategy of the GEF-5 Land Degradation Focal Area and the UNCCD 10-year Strategy have different time frames, there are strong linkages at multiple levels. The first step was the elaboration of a joint action plan at the UNCCD-GEF retreat held in January 2011 in Bonn.

In May 2010, the GEF completed a successful 5th replenishment process for the period 2010-2014, which resulted in the highest allocation ever to GEF, USD 4.25 billion. As a result of this increased replenishment, all focal areas received a much higher allocation of resources than in GEF-4. For the Land Degradation Focal Area (LDFA), which primarily supports priorities of

UNCCD, the total GEF-5 allocation is USD 405 million, which is more than 30% increase over GEF-4 levels.

Under the System for a Transparent Allocation of Resources (STAR), each individual country has access to an indicative allocation of resources for the focal areas of biodiversity, climate change and land degradation. The country allocations took into consideration three important criteria for the Focal Area: (i) Extent of dry lands; (ii) Area affected by land degradation; and (iii) Population affected by land degradation.

Under GEF-5, the main UNCCD forestry-related investments in LAC over the period 2010-2015 totalled USD 179 million (average of USD 36 million per annum), and main projects are shown in Table 46. The investments managed by GEF have increased significantly and this is expected to continue over the next few years.

Table 46 – Main UNCCD Forestry-Related Investments in LAC (2010-2015)

Project Title	Recipient	Time Period		Investment (USD Million)		Share
		From	To	Total	Year	
Sustainable Land management	Chile	2010	2014	84.06	16.81	46.95%
Adaptation of Nicaragua's Water Supplies to Climate Change	Nicaragua	2011	2015	38.10	7.62	21.28%
Integrated Management of the Yallahs River and Hope River Watersheds	Jamaica	2011	2015	13.12	2.62	7.33%
Fifth Operational Phase of the GEF Small Grants Programme in Bolivia	Bolivia	2011	2015	10.50	2.10	5.86%
Fifth Operational Phase of the GEF Small Grants Programme in Costa Rica	Costa Rica	2011	2015	9.38	1.88	5.24%
Others				23.87	5.19	13.33%
Total				**179.03**	**36.22**	**100.00%**

Source: UNCCD (2011b), adapted by the Consultant.

The main project called “Sustainable Land Management” is being carried out in Chile. The objective is to develop a national incentive program for mainstreaming sustainable land management (SLM) planning and practices to combat land degradation, conserve biodiversity of global importance and protect carbon assets. On-going government initiatives and incentive laws in the forestry and agricultural sectors (native and plantation forestry, soil conservation, and irrigation) will be re-focused so that their application promotes future provision of environmental services and better targets global and national environmental priorities.

The second major forestry-related UNCCD in LAC is the “Adaptation of Nicaragua's Water Supplies to Climate Change”, with a total budget of USD 38.1 million. The objective of this project is to enhance the current and future climate resilience of investments in water supply and rural sectors.

The grant finances four components: (i) Institutional strengthening for the integration of climate impacts in water resources management; (ii) Protection of micro-watersheds and water sources from climate induced vulnerabilities; (iii) Investment in supply- and demand-side measures to increase drinking water availability in vulnerable areas; and (iv) Coastal wetland protection and reduction of vulnerability to sea level rise to reduce climate induced impacts on drinking water supplies in vulnerable areas.

3.2.3 – United Nations Framework Convention on Climate Change (UNFCCC)

The UNFCCC was adopted at the Rio Earth Summit in 1992 and entered into force on March 1994. Since then 195 countries have ratified the Convention (UNFCCC, 2012b).The objective of the Convention is to stabilize greenhouse gas concentrations *"at a level that would prevent dangerous anthropogenic interference with the climate system."* It states that *"such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner"* (UNFCCC, Article 2).The Convention sets an overall framework for intergovernmental efforts to tackle the challenge posed by climate change.

Central and South America's vulnerability rate to climate change is currently high. On the other hand, the LAC region has a number of key opportunities for taking climate change actions to the next level both in adaptation and in mitigation. They include a package agreed by governments to help developing nations to deal with climate change, including new institutions to boost, e.g. technology cooperation and financing (UNFCCC, 2011c).

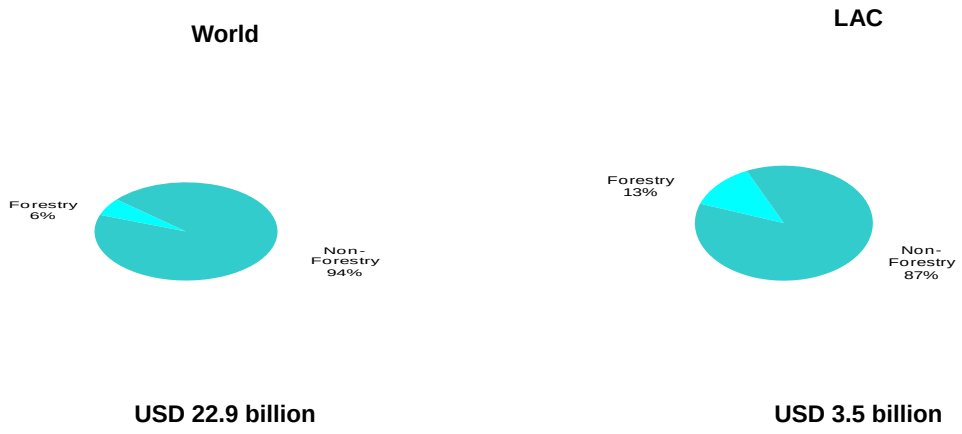
Programs to implement the objectives of the UNFCCC also emphasize the relationship between climate change and deforestation. Deforestation contributes to climate change more than any other form of land degradation, as it results in the release of carbon dioxide and the loss of sequestered carbon in biomass and soils. The work program of the UNFCCC, therefore, emphasizes the role of conservation and sustainable management of forests in carbon sequestration and carbon dioxide emission (GEF, 2005).

The contribution of countries to climate change and their capacity to prevent and cope with its consequences varies immensely. The Convention and the Kyoto Protocol (Article 11) foresee financial assistance from Parties with more resources to those less endowed countries. The Convention established a financial mechanism to provide funds to developing country Parties. The operation of the financial mechanism is entrusted to one or more existing international entities. Currently, the operation of the financial mechanism is partly entrusted to the GEF (GEF, 2005).

The Parties to the UNFCCC have established five special funds: (i) Adaptation Fund (AF); (ii) Clean Development Mechanism (CDM); (iii) Green Climate Fund (GCF); (iv) Least Developed Countries Fund (LDCF); (v) Special Climate Change Fund (SCCF). These funds together have invested so far USD 22.9 billion worldwide. The largest investment is the CDM (89.4%), followed by LDCF (4.7%), SCCF (4.3%) and AF (1.6%). The GCF is still not operational.

From the total UNFCC investment value worldwide, of USD 22.9 billion, about USD 1.3 billion (5.8%) are forestry-related. Total investments in LAC represent almost USD 3.5 billion (15.2% of the total), where forestry-related projects share is higher than worldwide, of 12.6%, or USD 440 million (see Figure 8).

Figure 8 – Forestry-Related Projects Share in the UNFCCC (2012)



Source: GEF (2011c,d,e); UNFCCC (2011c); CDM (2012a); AF (2012), adapted by the Consultant.

The total forestry-related investments in LAC under the UNFCCC are presented in Table 47. Until 2011, they totalled together USD 440 million, corresponding to an average investment of USD 37 million per year between 2000 and 2033. This timeframe is long because CDM projects which may last up to 30 years.

Table 47 – Total Forestry-Related Investments in LAC under the UNFCCC (2000-2033)

Investor	Investment (USD Million)		Share
	Total	Year	
AF	71.2	13.5	16%
CDM	292.9	10.8	67%
LDCF	13.8	1.4	3%
SCCF	62.4	11.7	14%
Total	**440.3**	**37.3**	**100%**

Source: GEF (2011c,d,e); UNFCCC (2011c); CDM (2012a), adapted by the Consultant.

- **Adaptation Fund (AF)**

The Adaptation Fund (AF) was established to finance concrete adaptation projects and programs in developing country Parties to the Kyoto Protocol that are particularly vulnerable to the adverse effects of climate change.The AF is financed from the share of proceeds on the Clean Development Mechanism (CDM) project activities and other sources of funding. The share of proceeds amounts to 2% of certified emission reductions (CERs) issued for a CDM project activity.Upon invitation from Parties, the GEF provides secretariat services to the Adaptation Fund Board (AFB) and the World Bank serves as trustee of the AF, both on an interim basis. A review of these interim institutional arrangements has been started in 2011 (UNFCCC, 2011b).

As of January 2011, cumulative receipts have totalled USD 225 million (USD 138 million from CER sales and USD 87 million from donors and other sources), and USD 12.63 million have been disbursed to adaptation projects. It is expected that the total amount of available resources will be between USD 250-350 million by 2012, which will partly depend on the carbon prices in the market (IDB, 2011c).The AF has reviewed over 30 projects submitted since its call for projects in April 2010. It has approved and/or disbursed on 10 for LAC countries (see Table 48).

Table 48 – Adaptation Fund Forestry-Related Investments in LAC (2006-2012)

Country	Time Period		Investment (USD Million)		Share
	From	To	Total	Year	
Jamaica	2011	2015	10.0	2.0	14.0%
Uruguay	2011	2015	10.0	2.0	14.0%
Colombia	2012	2017	9.8	1.6	13.8%
Ecuador	2011	2015	7.4	1.5	10.5%
Paraguay	2012	2017	7.1	1.2	10.0%
Belize	2012	2017	6.0	1.0	8.4%
Honduras	2010	2014	5.6	1.1	7.9%
Nicaragua	2010	2014	5.5	1.1	7.7%
El Salvador	2010	2014	5.4	1.1	7.6%

Argentina	2011	2015	4.3	0.9	6.1%
Total			**71.2**	**13.5**	**100.0%**

Source: UNFCCC (2011b), adapted by the Consultant.

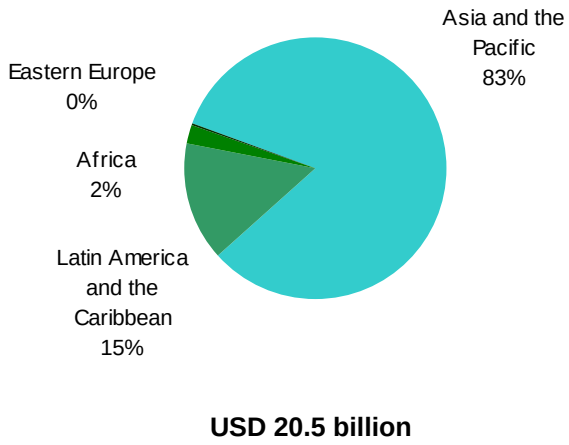
The AF can be differentiated from the other climate change funds in several ways, mainly due to direct access for eligible countries and innovative sources of funding. In practice, eligible developing countries have two options in applying for funding: directly through an accredited National Implementing Entity (NIE) or by an accredited Multilateral Implementing Entity (MIE).The former option is particularly expected to increase opportunities for procuring funds and to strengthen the country ownership of disbursements that the AF is the first fund, whose financing consists primarily of international revenue from CDM project activities. Specifically, 2% of the CERs registered under the CDM are taken into the AF, and these certificates are subsequently monetized in the carbon market.In spite of large budget allocations of the funds, investments in forest-related projects have been relatively small. For instance, the AF finance around USD 71 million for LAC countries.

- **Clean Development Mechanism (CDM)**

The Clean Development Mechanism (CDM) was established in the Article 12 of the Kyoto Protocol to the UNFCCC. It is a means of providing flexibility to developed countries in meeting their greenhouse gas reduction commitments under the Kyoto Protocol. The purpose of the CDM is to assist developing countries in "achieving sustainable development". Emission reductions from CDM projects must result in "real, measurable and long-term benefits" and must be additional. Participation in CDM projects takes place by mutual agreement between the investor and home countries. In addition to the CDM, the Kyoto Protocol provides other two market-based mechanisms, namely Joint Implementation (JI) under Article 6 and International Emissions Trading (IET) under Article 17.

JI consists of the transfer of Emission Reduction Units ("ERUs") among Annex I countries on a project-by-project basis. IET allows that Annex I countries to trade Assigned Amount Units ("AAUs") with each other. "Assigned Amounts" refers to the quantity of GHGs that a party to the Kyoto Protocol is allowed to release into the global atmosphere as calculated on a yearly basis in Annex B of the Protocol (World Bank, 2010c).From the total investment of USD 20 billion as of 2011, the majority of CDM projects are being developed in Asia and Pacific (83%) followed by the Latin American and Caribbean countries (15%). Very few projects are being developed in Africa (2%) and Eastern Europe (0.4%), as shown in Figure 9. Total investments in LAC sum about USD 3 billion.

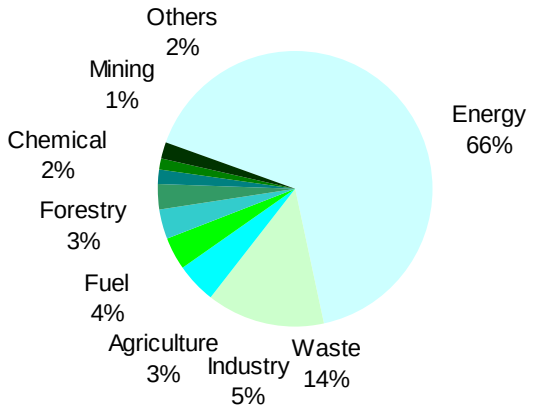
Figure 9 – Registered CDM Projects in the World by Region (2012)



Source: CDM (2011, 2012a), adapted by the Consultant.

The project type that is contributing to the largest amount of GHG reductions and number of projects is related to energy (68%). Although there are many renewable energy and energy efficiency projects, these projects generate less overall reductions than gas capture. However, the overall sustainable development benefits of these projects are much higher. Forestry (afforestation and reforestation) accounts for only 3% of the total (Figure 10), summing about USD 635 million worldwide.

Figure 10 – Registered CDM Projects by Scope (2012)



USD 20.5 billion

Source: CDM (2011, 2012a), adapted by the Consultant.

In the research for CDM afforestation and reforestation investments, the total investments were estimated based on the amount of reductions of each project, measured in metric tons CO_2 equivalent per year (CDM, 2012a). This data was crossed with CERs (Certified Emission Reductions) average value of sales from the AF between May 2009 and December 2011, resulting in an average price of USD 16.90 per metric tons CO_2 equivalent (AF, 2012).The final estimated value for worldwide afforestation and reforestation investments under the CDM totalled USD 635 million, or an average of USD 25 million per year. Investments in Latin America and the Caribbean participate with 46% of the total (see table 49).

Table 49 – Estimate of the Worldwide Afforestation and Reforestation Investments Under the CDM (2012)

Region	Value (USD)		Share
	Total	Year	
Latin America and the Caribbean	293	11	46%
Asia and the Pacific	208	8	33%
Eastern Europe	68	3	11%
Africa	65	3	10%
Total	**635**	**25**	**100%**

Source: Source: AF (2012); CDM (2012a), adapted by Ivan Tomaselli.

As a result for the 14 afforestation and reforestation projects currently being carried out in LAC, was estimated an average investment of USD 10.8 million per year between 2000 and 2033. The largest of these projects is the “AES Tietê Afforestation/Reforestation Project in the State of São Paulo, Brazil” (see table 50). The forestry-related projects under the CDM have long implementation periods, of up to 30 years.

Other important project in this area is the "Forestry Project in Strategic Ecological Areas of the Colombian Caribbean Savannas", with a total value of almost USD 34 million. The objective of this project is to carry out reforestation of 18,600 ha of grassland used as managed and unmanaged pastures in Colombia. The selected region has been identified as a strategic ecological area by the Government of Colombia due to its tendency of desertification caused by deforestation and cattle ranching. The reforestation started in June 2003 and is scheduled to end in 2017. Forest establishment is made by direct planting. The project activity is expected to lead to net anthropogenic GHG removals by sinks of about 66,652 t CO_2 per year. A single 30-year crediting period is adopted under the tCER approach (CDM, 2012a).

Table 50 – Main Forestry-Related Investments Carried-Out by the CDM in LAC (2000-2033)

Project Name	Country	Timeframe		Years	Amount of Reductions (Metric tonnes CO_2 equivalent per annum)	Estimated Value (USD Million)		Share
		From	To			Total	Year	
AES Tietê Afforestation/Reforestation Project in the State of São Paulo, Brazil	Brazil	2000	2030	30	157,635	79.9	2.7	27.3%
Reforestation as Renewable Source of Wood Supplies for Industrial Use in Brazil	Brazil	2000	2030	30	75,783	38.4	1.3	13.1%
Securitization and Carbon Sinks Project	Chile	2003	2032	30	72,019	36.5	1.2	12.5%
Forestry Project in Strategic Ecological Areas of the Colombian Caribbean Savannas	Colombia	2003	2033	30	66,652	33.8	1.1	11.5%
Reforestation of grazing Lands in Santo Domingo, Argentina	Argentina	2007	2027	20	66,038	22.3	1.1	7.6%
Other					201,395	81.9	3.4	28.0%
Total					**639,522**	**292.9**	**10.8**	**100.0%**

Source: AF (2012); CDM (2012a), adapted by Ivan Tomaselli.

The establishment of CDM increases a range of options for complying with their Kyoto Protocol emission reduction requirements, while at the same time promoting sustainable development, capacity building, fostering knowledge, and market creation. For developing countries, the mechanism offer opportunities to gain experience, by undertaking their first commercial transactions for the purchase of emission reduction credits under the CDM, and to compete in the emerging global carbon market.

- **Green Climate Fund (GCF)**

The Green Climate Fund (GCF) was launched at the 17th Conference of the Parties to the UNFCCC in Durban, in November 2011. The GCF is the operating entity of the financial mechanism of the UNFCCC, with arrangements to be concluded in the UNFCCC COP 18 (Qatar, December 2012).

The general purpose of the Fund is to make a contribution to combat climate change. In the context of sustainable development, the Fund will promote the paradigm shift towards low-emission and climate-resilient development pathways by providing support to developing countries to limit or reduce their greenhouse gas emissions and to adapt to the impacts of

climate change, taking into account the needs of those developing countries particularly vulnerable to the adverse effects of climate change.

It is expected that the GCF will play a key role in channelling new, additional, adequate and predictable financial resources to developing countries and will catalyse climate finance, both public and private, and at the international and national levels. It pursues a country-driven approach and promotes and strengthens engagement at the country level through effective involvement of relevant institutions and stakeholders. It will strive to maximize the impact of its funding for adaptation and mitigation, and seek a balance between the two, while promoting environmental, social, economic and development co-benefits and taking a gender-sensitive approach.

The GCF will help overhaul the UN's carbon market and financing for forestry projects. The World Bank will serve as interim trustee for the Fund, subject to a review three years after the operationalization of the Fund. It will provide financing in the form of grants and concessional lending, and through other modalities and instruments that may be approved by the Board. Financing will be tailored to cover the identifiable additional costs of the investment necessary to make the project viable. It will seek to catalyse additional public and private finance through its activities at the national and international levels.

The Board will develop an appropriate risk management policy for funding and financial instruments. In the broad context of long-term financial support, industrialized countries committed to provide funds of USD 100 billion per year by 2020 to support concrete mitigation actions by developing countries. These funds would be raised from a mix of public and private sources (UNFCCC, 2011a).

The general trend is also to increase the number of organizations involved in the implementation and as beneficiaries of financing initiatives. Private sector involvement is fairly frequent. Examples are: the IDB SECCI includes private project developers among recipient entities; the BioCF include guarantees and equity with significant co-financing from the private sector; the Earth Fund catalyses private sector engagement in the activities of the GEF; the FLEG involves discussions in partnership with major stakeholders from the civil society and the private sector; the PCF, managed by the World Bank, is a partnership between seventeen private companies and six governments; the UCF consists of five carbon funds, administered by the World Bank and 11 members of the private sector. The GCF is expected to catalyse additional public and private finance through its activities at the national and international levels.

The assessment points out that there are a large number of initiatives to support forest-related projects. On the other hand, for LAC countries the actual investments of new forest-related financing initiatives, with a few exceptions, have a narrow scope and are relatively small. This indicates that there is a considerable gap between the demand and the actual availability of finance for sustainable management of forests in the region.

The trend is to involve other organizations, particularly from the private sector, in the formulation and implementation of funds and projects. This involvement has several implications. Other concepts and views will need to be incorporated in the decision-making process and more discussions will be required to reach a consensus. On the other hand, the process tends to be more democratic, will enlarge the number of supporters and will tend to make available additional funds.

- **Least Developed Countries Fund (LDCF)**

The Least Developed Countries Fund (LDCF) was established to support a work programme to assist Least Developed Country Parties (LDCs) carry out the preparation and implementation of National Adaptation Programmes of Action (NAPAs). The GEF, as an operating entity of the financial mechanism of the UNFCCC, has been entrusted to operate this Fund (UNFCCC, 2011e).

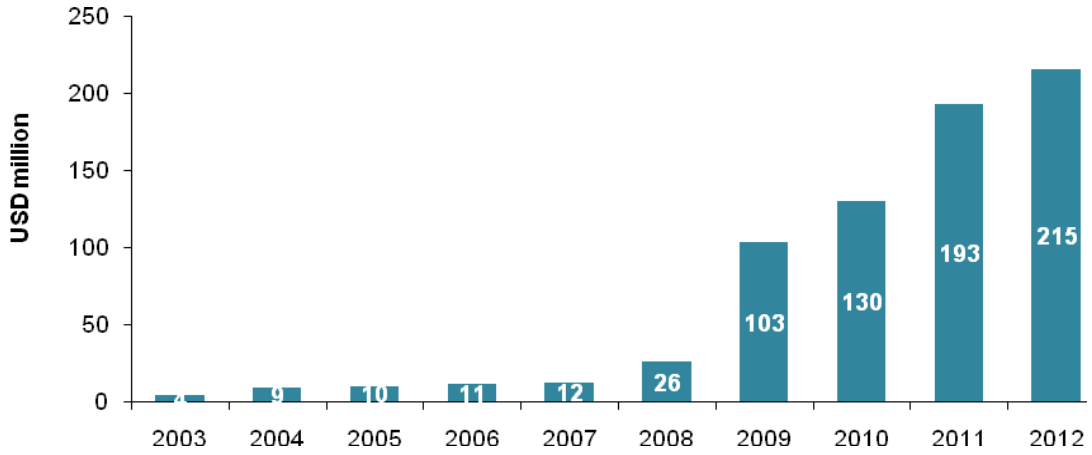
The UNFCC COP 11 agreed on provisions to operationalize the LDCF to support the implementation of NAPAs. In particular, the COP provided guidance with regards to priority areas and provisions on full-cost funding and co-financing scale (UNFCCC, 2011e).

The UNFCCC COP 17 requested the GEF to continue providing information to the LDCs on project baselines and accessing funding from the LDCF to: (i) Develop and implement projects under NAPAs, addressing the effects of climate change; (ii) Support the development of a programmatic approaches for the implementation of NAPAs; (iii) Explore opportunities to streamline the LDCF project cycle (UNFCCC, 2011e).

NAPAs use existing information to identify a country's priorities for climate adaptation actions. The LDCF is the only existing fund with mandate to finance the preparation and implementation of the NAPAs (GEF, 2011e).

ThroughLDCF,48 of the world's most vulnerable countries are benefitting to access resources for NAPA preparation. The Fund supported 52 projects and programs in 42 of the least developed countries as of 2010, the largest portfolio of adaptation projects of its kind; among them, 33 projects have started implementation on the ground (GEF, 2011e).LDCF cumulative funding has grown more than 5,000% between 2003 and 2012, making the accumulated value to grow from USD 4 million in 2003 to USD 215 million in 2012 (see Figure 11).

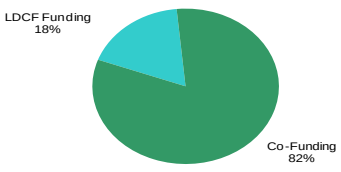
Figure 11 – LDCF Cumulative Funding



Source: GEF (2011e), adapted by the Consultant.

As of October 2011, the total LDCF funding was USD 1.1 billion, where USD 193 million (18%) were LDCF own funding, and USD 883 million were co-funding (82%), as shown in Figure 12.

Figure 12 – LDCF Distribution of Total Funding (as of October 2011)



USD 1.1 billion

Source: GEF (2011d), adapted by the Consultant.

The LDCF focuses on reducing the vulnerability of the sectors and resources central to development and livelihoods: (i) Water; (ii) Agriculture and food security; (iii) Health; (iv) Disaster risk management and prevention; (v) Infrastructure; and (vi) Fragile ecosystems.

As of October 2011, the most important project types carried out under the LDCF were Food and Agriculture (39%), Coastal Management (24%) and Water Resources (15%), as shown in Table 51. Specific forestry projects have not yet been developed under the LDCF; nevertheless, the forestry component is incorporated in several of these LDCF priority areas.

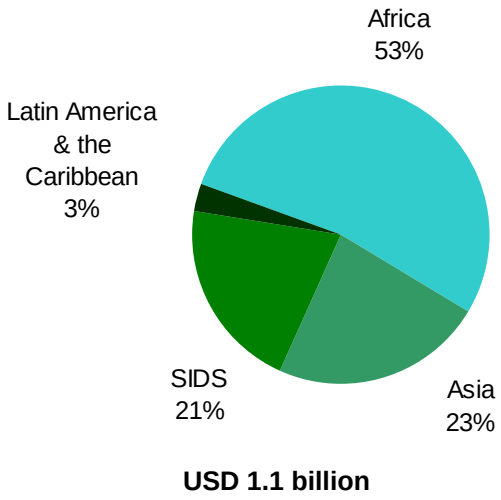
Table 51 – LDCF Priority Areas (as of October 2011)

Project Type	Share
Food and Agriculture	39%
Coastal Management	24%
Water Resources	15%
Disaster Risk Management	13%
Early Warning System	7%
Ecosystem Management	2%
Health	0%
Total	**100%**

Source: GEF (2011e), adapted by the Consultant.

From the total amount USD 1.1 billion funded and co-funded by the LDCF as October 2011, the Latin America and the Caribbean region represented only 3% (see Figure 13), since there is only one LDC (Least Developed Country) in the region, Haiti. The largest portion of these resources was directed to Africa (53%), where most of the LDCs are found, followed by Asia with 23%, and about 21% are applied in Small Island Developing States (SIDS).

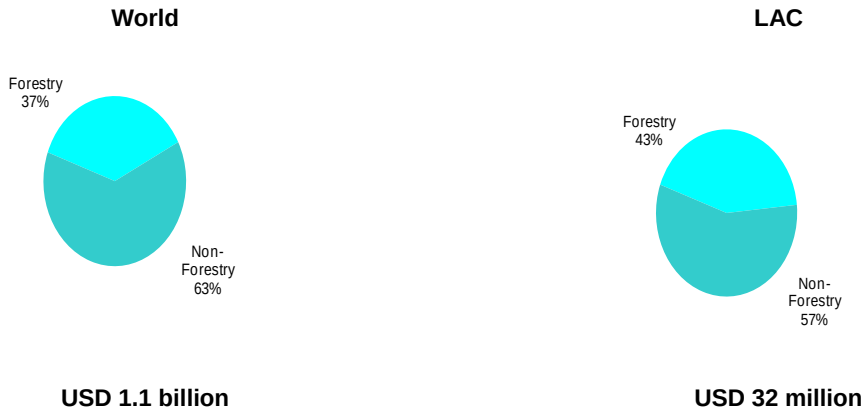
Figure 13 – LDCF Funding Distribution by Region (as of October 2011)



Source: GEF (2011e), adapted by the Consultant.

The forestry component is the most important in several LDCF projects (see figure 14). At the global level, they represent 37% of the total project value (USD 396 million). In LAC, which represents 3% of the LDCF projects (USD 32 million), forestry projects are more representative, encompassing 43% of the total (USD 14 million), indicating an average investment in forestry in LAC of USD 1.4 million per year. This value is related to one project, being carried out in Haiti, called the "Strengthening Adaptive Capacities to Address Climate Change Threats on Sustainable Development Strategies for Coastal Communities in Haiti".

Figure 14 – Forestry-Related Projects Share in the LDCF (2011)



Source: GEF (2011d), adapted by the Consultant.

- **Special Climate Change Fund (SCCF)**

The Special Climate Change Fund (SCCF) was established under the UNFCCC in 2001 to finance projects relating to: (i) Adaptation; (ii) Technology transfer and capacity building; (iii) Energy, transport, industry, agriculture, forestry and waste management; and (iv) Economic diversification. This fund complements other funding mechanisms for the implementation of the UNFCCC (UNFCCC, 2011d).

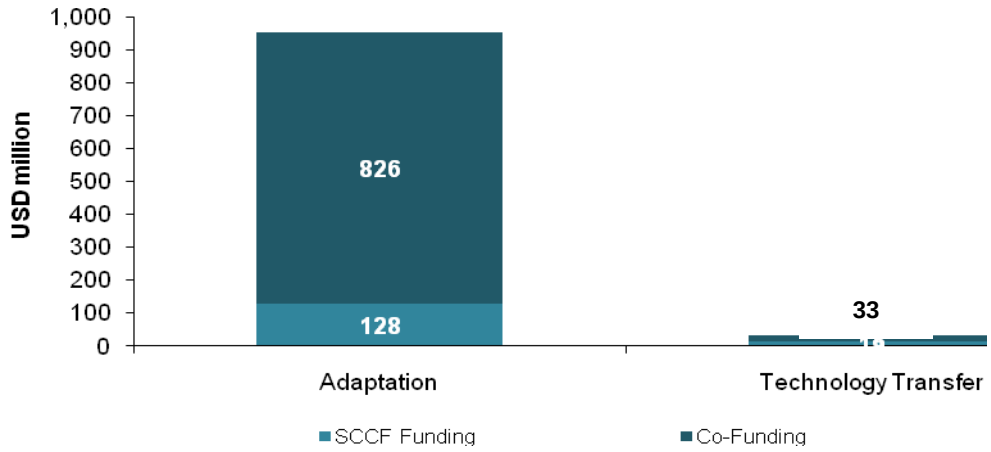
The GEF, as an operating entity of the financial mechanism of UNFCCC, has been entrusted to also operate the SCCF. In 2004, the GEF Council approved a programming document, providing the operational basis for funding activities under the SCCF (UNFCCC, 2011d).

The UNFCCC COP 15, held in December 2009, decided to assess the status of implementation of the decision on the operation of SCCF to consider guidance on how the Fund should support concrete implementation of projects relating to response measures. In this context, the SBI (Subsidiary Body for Implementation), at its 30th session, invited Parties to submit to the UNFCCC secretariat their recommendations on the assessment. No submissions were received.

The SBI considered this issue again at its 31st and 32nd sessions, but was unable to complete its deliberations. Finally, at its 33rd session, the SBI concluded the assessment of the SCCF (UNFCCC, 2011d).The UNFCCC COP 17 requested the GEF to clarify the concept of additional costs applied to different types of adaptation projects under the SCCF, and to continue providing financial resources to developing countries for strengthening existing and, establishing national and regional systematic monitoring networks under the SCCF (UNFCCC, 2011d).

SCCF overall project portfolio as of June 2011increasedto USD 983 million, where USD 143 million (14%) are SCFF own funding and USD 844 million (86%) are co-funding. Among the funding windows, adaptation projects total USD 954 million (97%) and technology transfer the remaining USD 33 million (3%), as presented in Figure 15.

Figure 15 – SCCF by Fund[illegible]w (as of June 2011)



Source: GEF (2011d), adapted by the Consultant.

As of June 2011, SCCF total donor pledges were USD 180 million (see Table 52). Germany was the largest donor with USD 49 million, equivalent to 27% of the total.

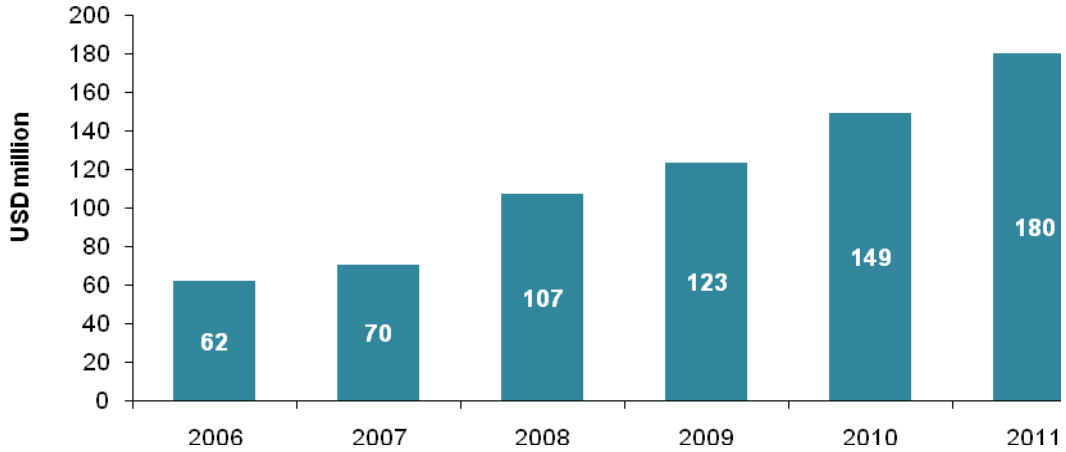
Table 52 – SCCF Donor Pledges (June 2011)

Country	USD Million	Share
Germany	49.3	27%
Norway	24.2	13%
United States	20.0	11%
United Kingdom	18.6	10%
Canada	12.9	7%
Spain	12.3	7%
Italy	10.0	6%
Denmark	9.0	5%
Finland	6.4	4%
Sweden	6.1	3%
Switzerland	4.6	3%
Netherlands	3.1	2%
Ireland	2.1	1%
Portugal	1.3	1%
Total	**180.1**	**100%**

Source: GEF (2011d), adapted by the Consultant.

SCCF cumulative pledging has grown 190% between 2006 and 2011, corresponding to an average of 32% per year, making the accumulated pledged amount to grow from USD 62 million in 2006 to USD 180 million in 2011 (see Figure 16).

Figure 16 – SCCF Cumulative Pledge



Source: GEF (2011d), adapted by the Consultant.

From the 96 projects carried out by SCCF as of June 2011, adaptation projects comprised 91% of the total (see Table 53). The three most important project types are water resources management (24%), agriculture (21%) and land management (10%).The remaining 9% refers to technology transfer-related projects.

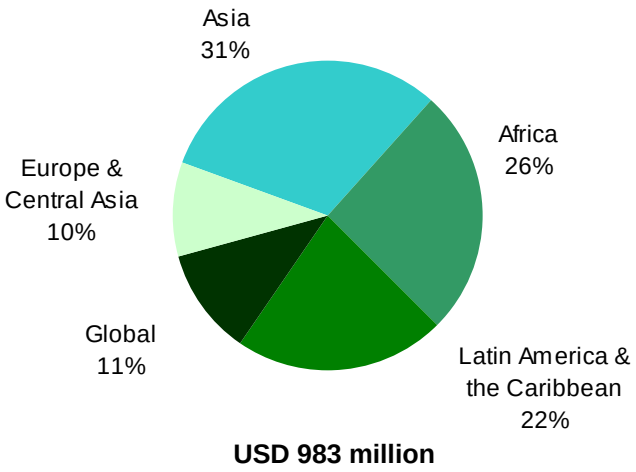
Table 53 – SCCF Priority Areas (June 2011)

Project Type	Number of Projects	Share
Adaptation	**87**	**91%**
Water resources management	23	24%
Agriculture	20	21%
Land management	10	10%
Integrated coastal zoning	8	8%
Fragile ecosystems	8	8%
Disaster risk management	7	7%
Health	6	6%
Infrastructure development	5	5%
Technology Transfer	**9**	**9%**
Capacity building	4	4%
Implementation of technologies	2	2%
Enabling environments	2	2%
Technology information	1	1%
Total	**96**	**100%**

Source: GEF (2011d), adapted by the Consultant.

From the total amount of USD 983 million funded and co-funded by the SCCF as of June 2011, Latin America and the Caribbean represented 22% (see Figure 17). The largest portion of these resources was directed to Asia (32%), followed by Africa with 26%.

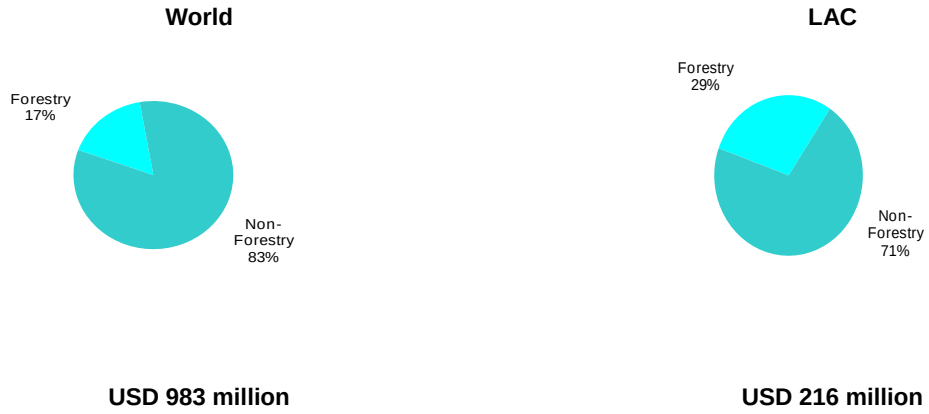
Figure 17 – SCCF Funding Distribution by Region (as of June 2011)



Source: GEF (2011d), adapted by the Consultant.

The forestry component is significant in several SCCF projects (see figure 18). Nevertheless, at the global level, they represent only 17% of the total project value (USD 165 million). In LAC, which represents 22% of the SCCF projects (USD 216 million), forestry projects are a little more representative, encompassing 29% of the total (USD 62 million), indicating an average investment in forestry in LAC of USD 11.7 million per year. This value is related to two projects, being carried out in Mexico (Adaptation to Climate Change Impacts on the Coastal Wetlands) and Nicaragua (Adaptation of Nicaragua's Water Supplies to Climate Change).

Figure 18 – Forestry-Related Projects Share in the SCCF (2011)



Source: GEF (2011d), adapted by the Consultant.

3.3 – JOINT INITIATIVES

3.3.1 – Forest Carbon Partnership Facility (FCPF)

The FCPF became operational in June 2008. It is a global partnership focused on reducing emissions from deforestation and forest degradation, forest carbon stock conservation, sustainable management of forests and enhancement of forest carbon stocks (REDD+).

The FCPF assists tropical and subtropical forest countries to develop the systems and policies for REDD+ and provides them with performance-based payments for emission reductions. The FCPF complements the UNFCCC negotiations on REDD+ by demonstrating how REDD+ can be applied at the country level. The World Bank acts as trustee for the Readiness Fund and the Carbon Fund (FCPF, 2012).

Thirty-seven REDD countries (14 in Africa, 15 in Latin America and the Caribbean, and 8 in Asia and the Pacific) have been selected in the partnership. Thirteen of these countries, including Argentina, Costa Rica and Panama, have so far submitted Readiness Preparation Proposals (R-PPs). The World Bank is conducting due diligences on these proposals with a view to entering into readiness grant agreements of up to USD 3.6 million to assist these countries conduct the preparatory work they have proposed.

Sixteen financial contributors (*Agence Française de Développement*, Australia, British Petroleum, Canada, CDC Climate, Denmark, the European Union, Finland, Germany, Italy, Japan, The Nature Conservancy, the Netherlands, Norway, Spain, Switzerland, the United Kingdom and the United States) have pledged about USD 447 million to the FCPF, being USD 232 million to the Readiness Fund and USD 215 million to the Carbon Fund (FCPF, 2012).

Two FCPF projects financed in the LAC region during 2011-2013 were identified by the consultant, one in Mexico and the other in Costa Rica. Both LAC projects identified were started in 2011 and will end in 2013 (World Bank, 2011a).

The Mexico project had a budget of USD 3.6 million (Mexico FCPF Readiness Preparation Grant). The objective of the project is to help Mexico to reduce carbon emissions from deforestation and forest degradation, sustainably manage forests, and conserve and enhance forest carbon stocks (REDD+) in a socially and environmentally sound manner, while accessing international financial incentives for local forest users, thereby helping to mitigate climate change at a global level. The immediate objective would be for Mexico to become ready for future REDD implementation by preparing the key elements, systems and/or policies needed, the “REDD Readiness Package”, in a socially and environmentally sound manner. The “Costa Rica FCPF REDD Readiness” project has a similar objective of Mexico’s initiative. It has a USD 3.4 million grant from the FCPF Readiness Fund.

3.3.2 - Global Forest Alliance (GFA)

The GFA is an initiative to consolidate and stimulate synergies among the existing successful forest partnerships. The GFA is currently being developed with bilateral donors, civil society, and private sector partners. It was endorsed in February 2007. The partnership takes advantage of new opportunities for avoided deforestation to mitigate climate change and strengthen implementation of the 2002 Forests Strategy through the leveraging of new sources of concessional financing and grants (FPP, 2007).

GFA aims to reverse forest loss in developing countries, contribute to poverty reduction and climate change mitigation, secure provision of forest environmental services and create an inclusive partnership framework for joint action. GFA intends to achieve four targets by 2015: (i) Improve and sustain the livelihoods of 500 million poor, forest dependent people by supporting sustainable forest management and agroforestry-based farming systems; (ii) Conserve 1 billion ton of CO_2 by engaging in avoided deforestation initiatives; (iii) Bring 300 million ha of production forests under independently certified sustainable management; and (iv) Create 50 million ha of new protected areas and bring 120 million ha of existing areas under improved management. Worldwide, the GFA will contribute with USD 300 million in technical assistance plus carbon finance (GFMC, 2007).

3.3.3 – UN-REDD Programme

The UN-REDD Programme is the United Nations Collaborative initiative on Reducing Emissions from Deforestation and Forest Degradation (REDD) in developing countries. The Programme was launched in September 2008 to assist developing countries to prepare and implement national REDD+ strategies, and builds on the expertise of FAO, UNDP and UNEP (UNEP, 2009).

The principle is that countries that are willing and are able to reduce emissions from deforestation should be compensated for doing so. In general, a well-designed REDD mechanism is likely to deliver substantial benefits for biodiversity and ES since reducing deforestation and degradation implies in a decline in habitat destruction and thus in biodiversity loss (GCP, 2010).

By June 2011, the UN-REDD Programme had 35 partner countries (Table 54). Thirteen of these have had their funding requests to support their National Programs approved by the Policy Board, including LAC countries such as Bolivia, Ecuador, Panama and Paraguay. Of these, the UN-REDD Programme disbursed funding to nine countries, which are currently in the implementation phase, including all four countries in the LAC (UN-REDD Programme, 2011b).

Table 54 - List of UN-REDD Programme Partner Countries

Africa	Asia-Pacific	Latin America and the Caribbean
Central African Republic	Bangladesh	Argentina
Democratic Republic of the Congo*	Bhutan	Bolivia*
Ethiopia	Cambodia*	Colombia
Gabon	Indonesia*	Costa Rica
Côte d'Ivoire	Mongolia	Ecuador*
Kenya	Nepal	Guatemala
Nigeria	Pakistan	Guyana
Republic of Congo	Papua New Guinea*	Honduras
Sudan	Philippines*	Mexico
Tanzania*	Solomon Islands*	Panama*
Zambia*	Sri Lanka	Paraguay*
	Viet Nam*	Peru

* Countries receiving support from National Programs.
Source: UN-REDD Programme (2011b), adapted by the Consultant.

As of March 2012, total deposits into the UN-REED programme fund were of more than USD 118 million (see Table 55). Almost 90% of the deposits were made by Norway.

Table 55 –Total Donor Deposits into the UN-REDD Programme Fund (2012)

Donor	USD 1,000					Share
	2008	2009	2010	2011	Total	
Norway	12,000	40,214	32,193	21,411	**105,818**	**89%**
Denmark	--	1,917	6,160	--	**8,077**	**7%**
Japan	--	--	--	3,046	**3,046**	**3%**
Spain	--	--	1,315	--	**1,315**	**1%**
TOTAL	**12,000**	**42,131**	**39,668**	**24,457**	**118,256**	**100%**

Source: UN-REDD Programme (2012), adapted by the Consultant.

The UN-REDD National Programme in Bolivia is supporting the country in its efforts to achieve national REDD+ readiness, in coordination with the FCPF and the German Development

Cooperation. The total budget for Bolivia is USD 4.7 million, for the period 2010-2013 (UN-REDD Programme, 2010c).

The UN-REDD National Programme for Paraguay will support the government to overcome the drivers of deforestation and forest degradation, ensuring that the country is ready for REDD+. Paraguay will pursue three outcomes to meet this objective: i) Improved institutional and technical capacity of government and civil society organizations to manage REDD+ activities in Paraguay; ii) Capacity established to implement REDD+ at the local level; iii) Increased knowledge and capacity building on REDD+ for forest dependent communities, especially Indigenous Peoples and other relevant stakeholders. The total budget for Paraguay is USD 4.7 million, for the period 2011-2014 (UN-REDD Programme, 2011a).

The Panama UN-REDD National Programme of USD 5.3 million was approved in 2009, and funds were transferred in December 2010. The objective is to assist the Government of Panama in developing an effective REDD+ regime. This will contribute to the broader goal of ensuring that by the end of 2012, Panama will be REDD+ ready and will have the capacity to reduce emissions from deforestation and forest degradation nationally. The expected outcomes of the Programme are: (i) Institutional capacity established for the efficient coordination and execution of a REDD+ Programme in Panama; and (ii) Technical capacity to monitor, measure, report and verify the reduction of emissions from deforestation and forest degradation (UN-REDD Programme, 2011b).

Table 56 – UN-REDD Programme Investments in LAC (2012)

Country	Timeframe		Investment (USD Million)		Share
	From	To	Total	Year	
Panama	2011	2014	5.3	1.3	28%
Bolivia	2010	2013	4.7	1.2	25%
Paraguay	2011	2014	4.7	1.2	25%
Ecuador	2011	2013	4.0	1.3	21%
Total			**18.7**	**5.0**	**100%**

Source: UN-REDD Programme (2012), adapted by the Consultant.

The UN-REDD Programme works in close coordination with the FCPF and the FIP (part of the World Bank Climate Investment Funds) both at the international and national level, where joint missions and information sharing result in coordinated support interventions. The Programme also works with the Secretariat of UNFCCC, GEF, UNFF, members of the Collaborative Partnership on Forests (CPF), donors, civil society, non-governmental organizations, and the academia (UN-REDD Programme, 2010c).

3.4 – REGIONAL INITIATIVES

There are several new regional initiatives that might consider financing of forest-related activities. Some of the region new initiatives identified are presented below, where most of them also tend to focus on climate change and related issues.

3.4.1 - Carbon Fund for Europe (CFE)

The CFE is designed to help European countries meet their commitments to the Kyoto Protocol and the European Union's Emissions Trading Scheme (EU ETS). It was launched in March 2007 and is a trust fund established by the World Bank, in cooperation with the European Investment Bank (EIB).

The Fund aims purchase greenhouse gas emission reductions through the Kyoto Protocol's CDM and JI from climate-friendly investment projects from either bank's portfolio as well as self-

standing projects. The five participants are part of the CFE: Ireland, Luxembourg, Portugal, Flemish Region, and Stakraft Carbon Invest AS (Norway).

The CDE is basically a fund to support activities related to the emission reduction agreement. With total capitalization of USD 65 million, it signed a fifth emission reduction agreement in 2009 bringing the total amount of emissions purchased up to 3.4 million tons of carbon dioxide emissions. The fund currently has an additional 1 million tons of carbon dioxide emissions in its pipeline.

Through the CFE, the two institutions (World Bank and the European Investment Bank) will help developing countries to achieve sustainable development by fostering investment in clean technology projects, complement private sector development in the emerging carbon market, and seek ways to support essential private sector carbon market development (World Bank, 2010b).

3.4.2 – EU FLEGT Facility

EU FLEGT Facility is a multi-donor partnership formed to pursue a shared goal of enhancing forests' contribution to poverty reduction, sustainable economic development, and maintaining and enhancing environmental services. Through improved knowledge and innovative approaches for sustainable forest management, the EU FLEGT Facility seeks to encourage the transition to a more socially and environmentally sustainable forest sector supported by sound policies and institutions that take a holistic approach to forest conservation and management.

The EU FLEGT Facility fosters knowledge generation in four key thematic areas: i) Forest governance; ii) Forests' contribution to livelihoods of the rural poor; iii) Mitigation of adverse cross-sectorial impacts on forests; and iv) Innovative approaches to financing sustainable forest management.

The overall objective of the initiative is to support the EU Forest Law Enforcement Governance and Trade (FLEGT) process in developing countries, related to the implementation of the EU FLEGT Action Plan. The EU FLEGT Facility assists the European Commission and the EU Member States in their joint effort of its implementation.

The consumer countries of the European Union have tackled illegal logging and associated trade issues. Its FLEGT program discourages imports of illegally sourced timber. The FLEG Process contributed to creating the enabling conditions for the EU initiative to materialize. In 2005, the EU Council approved a voluntary licensing scheme, agreed to by exporting and importing countries of the EU, to ensure that future imports to the EU would be legally sourced. The scheme is similar to others already in place, including the Convention on International Trade in Endangered Species (CITES) and the Kimberley Process on conflict diamonds. The agreements recommend a set of actions, including those to improve governance in forest-rich exporting countries.

Ghana, Malaysia, and Indonesia have entered into formal negotiations, and talks with other countries, including Cameroon, Congo, and Gabon, are well advanced. Several other countries are interested in similar agreements (World Bank, 2007b).

FLEGT initiatives have focused on producer countries affected by illegal logging. The FLEGT emphasis has been on strengthening governance on the supply side of logging and trade. On the other hand, the FLEGT emphasizes managing demand in the key EU market. It consequently targets the more limited number of countries in the developing world that export forest products to the EU area. By influencing demand for legally sourced products, the FLEGT provides direct financial incentives to comply with the law in a main market, whereas FLEGT does not generate significant market incentives (World Bank, 2007a).

The FLEGT provides technical assistance to governments and other stakeholder groups in timber exporting countries, to support the negotiation and implementation of Voluntary Partnership Agreements (VPAs). It can provide advice to partner countries on technical aspects of the Agreement, assist in developing the framework for the systems ensuring that wood

exported into the EU are of legal origin and can support strengthening the partner country's capacity to meet the VPA requirements. The team also has a remit to assess linkages and strengthen synergies between the EU FLEGT programme and REDD, the key international programme under development to combat climate change in the forestry sector (EU FLEGT, 2011).

3.4.3 - Carbon Partnership Facility (CPF)

The Carbon PF is designed to develop emission reductions and support their purchase on a larger scale through programmatic approaches that support partner country initiatives for low-carbon growth. The CPF is comprised of two trust funds: (i) Carbon Asset Development Fund (CADF) to prepare and implement emission-reduction programs; and (ii) Carbon Fund (CF) to purchase carbon credits from the pool of emission reduction programs.

The CPF brings together industrial country buyers and developing country sellers of emission reductions, as well as developing and donor country governments, into a partnership with shared decision-making and opportunities for sharing experience and knowledge regarding carbon finance. The CPF will also target areas that have not been reached effectively by CDM in the past, such as energy efficiency, and will pilot city-wide carbon finance programs.

The CPF's Carbon Fund (a carbon transaction facility) became operational in 2010. The Carbon Asset Development Fund (the program preparation facility of the CPF) has been operational since early 2009. It counts with USD 172 million in CPF Carbon Fund; USD 14 million in donor contributions to the Carbon Asset Development Fund (World Bank, 2011d).There is one CPF project in LAC, specifically in Brazil. The project is related to solid waste management. No forestry-related project has been identified in the region.

3.4.4 – Partnership for Market Readiness (PMR)

The Partnership for Market Readiness (PMR) was launched in 2010. It is a grant-based, capacity building trust fund that provides funding and technical assistance for the collective innovation and piloting of market-based instruments for greenhouse gas emissions reduction.

The PMR was established with a fund for capacity building of a target size of USD 100 million. It brings together developed and developing countries to foster new and innovative market instruments to lower greenhouse gas emissions, harness financial flows, build market readiness capacity for countries to scale up their climate change mitigation efforts and pilot market instruments, including domestic trading schemes and new crediting mechanisms for Nationally Appropriate Mitigation Actions (NAMAs). It currently has USD 70 million in pledges (World Bank, 2011c).

For many countries, PMR is the first step toward implementing a market-based instrument, which is to build market readiness capacity, such as measuring, reporting and verification systems or the creation of a regulatory framework. As such, market preparation is also a crucial part of the work of the PMR. Implementing country participants in the LAC region include Brazil, Chile, Colombia, Costa Rica, and Mexico (World Bank, 2011c).

3.4.5 – REDD+ Partnership

The REDD+ Partnership, launched in May 2010, serves as an interim platform for its partner countries to scale up actions and finance for initiatives to reduce emissions from deforestation and forest degradation (REDD+) in developing countries.

The objective of the Partnership is ''to contribute to the global battle against climate change by serving as an interim platform for the Partners to scale up REDD+ actions and finance, and to that end to take immediate action, including improving the effectiveness, efficiency, transparency and coordination of REDD+ initiatives and financial instruments, to facilitate

among other things knowledge transfer, capacity enhancement, mitigation actions and technology development and transfer".

Around USD 4 billion were pledged for the period 2010–2012 for measures to reduce greenhouse gas emissions from deforestation and forest degradation in developing countries (REDD+ Partnership, 2010b).

At least about 50 tropical and sub-tropical forest countries are involved or expecting to get involved in REDD+. These countries will face financing needs in the three phases of REDD+, beginning with the development of national strategies or action plans, policies and measures and capacity-building, followed by the implementation of national policies and measures, and national strategies or action plans and, as appropriate, sub national strategies, that could involve further capacity-building, technology transfer and results-based demonstration activities, and evolving into results-based actions.

Forest countries have started assessing their financing needs for the three phases of REDD+, though the estimates are neither comprehensive nor systematic (REDD+ Partnership, 2010b). The total amount from multilateral, international and regional programs that is currently estimated to be available for REDD+ is about USD 6.2 billion, as shown in Table 57. Around half of the total value was financed by Norway. Japan also contributed significantly to financing (25%).

Table 57 - Financing of Multilateral, International, Regional and Bilateral Country Programs for REDD+ from 2008

Country	USD million			Share
	Multilateral	Bilateral	Total	
Norway	540	2,327	**2,866**	**46.40%**
Japan	70	1,456	**1,526**	**24.70%**
France	42	269	**311**	**5.00%**
Germany	59	220	**280**	**4.50%**
European Commission	92	134	**226**	**3.70%**
United States	126	86	**212**	**3.40%**
United Kingdom	165	29	**194**	**3.10%**
Australia	36	67	**103**	**1.70%**
Finland	43	56	**99**	**1.60%**
Sweden	39	34	**74**	**1.20%**
Denmark	52	17	**70**	**1.10%**
Switzerland	37	23	**60**	**1.00%**
Others	5	45	**50**	**0.80%**
Canada	40	-	**40**	**0.60%**
Spain	38	-	**38**	**0.60%**
Netherlands	20	-	**20**	**0.30%**
Belgium	10	-	**10**	**0.20%**
TOTAL	**1,414**	**4,765**	**6,179**	**100.00%**

Source: REDD+ Partnership (2010a), adapted by the Consultant.

The relevant Regional Initiatives financing new forest-related initiatives, which are also strongly related to climate change, are the CFE that help European countries meet their commitments to the Kyoto Protocol and the European Union's Emissions Trading Scheme, the CPF designed to develop emission reductions and support their purchase on a larger scale, and the PMR provides funding and technical assistance for the developing and piloting of market-based instruments for greenhouse gas emissions reduction.

The EU FLEGT Facility seeks to encourage the transition to a more socially and environmentally sustainable forest sector supported by sound policies and institutions that take a holistic approach to forest conservation and management.

3.5 – NATIONAL INITIATIVES

National initiatives including the Danish Carbon Fund, the Italian Carbon Fund, the Netherlands Clean Development Mechanism Facility and the Spanish Carbon Fund are also strongly linked to climate change. All of them have basically as main focus to contribute to the mitigation of greenhouse gases mainly by supporting the implementation of projects in developing countries and countries with economies in transition.

3.5.1 – Danish Carbon Fund (DCF)

The DCF is a private-public partnership that aims to mobilize new and additional resources to address climate change and promote sustainable development. The DCF was established in January 2005 with an initial capitalization of USD 34 million. The full capitalization of the DCF now stands at USD 117 million. The fund consists of five participants: the Danish Ministry of Climate and Energy, DONG Energy, Aalborg Portland, Maersk Olieog Gas, and NordjyskElhandel.

The DCF consists of seven emission reductions purchase agreements with a total carbon reduction volume of 6.8 million tons of carbon dioxide equivalent. The fund has an additional 9 projects in pipeline equivalent to another 35 million tons of carbon dioxide (World Bank, 2010c).

The DCF is open to considering CDM projects throughout the developing world. It also seeks to contribute to the mitigation of greenhouse gases in countries with economies in transition through JI. In LAC, one project in Mexico on the abatement of greenhouse gases in waste management was identified, but no forestry-related projects were identified.

3.5.2 – Italian Carbon Fund (ICF)

The ICF was established in 2003 to create a fund to purchase greenhouse gas emission reductions from projects in developing countries and countries with economies in transition that may be recognized under such mechanisms as the Kyoto Protocol's CDM and JI.

The ICF had an initial endowment from Italy of USD 15 million, whose amount increased over time, as the Fund was open to the subscription of Italian entities. The minimum contribution from each additional participant was set at USD 1 million. With a capitalization of USD 156 million, the ICF has signed six emission reductions purchase agreements totalling USD 146 million and 26 million tons of carbon dioxide. The portfolio includes projects operating under both the Kyoto Protocol's CDM and JI mechanisms (World Bank, 2010c).The project portfolio of the ICF include a wide range of technologies, including carbon sequestration, and regions, including China, Mediterranean, Latin America, Balkans and the Middle East.

3.5.3 – Netherlands Clean Development Mechanism Facility (NCDMF)

The NCDMF was established in 2002 to purchase greenhouse gas emission reduction credits. The Facility supports projects in developing countries in exchange for such credits under the CDM established by the Kyoto Protocol to the UNFCCC.

The NCDMF has a mature portfolio that includes the first project ever registered under the Kyoto Protocol's CDM mechanism. The NCDMF portfolio includes a significant number of registered projects and others with signed emission reductions purchase agreements that are in the process of being registered (World Bank, 2010c).

The fund purchases Emission Reductions from projects in the following categories: (i) Renewable energy technology, such as geothermal, wind, solar, and small-scale hydro-power;

(ii) Clean, sustainably grown biomass (no waste); (iii) Energy efficiency improvement; (iv) Fossil fuel switch and methane recovery; and (v) Sequestration.

The NCDMF offers opportunities for both developed and developing countries. For developed countries the establishment of a clean development mechanism facility increases the range of options for complying with their Kyoto Protocol emission reduction requirements, while at the same time promotes sustainable development, capacity building, fostering of knowledge, and market creation. For developing countries the mechanism offers opportunities to gain experience, by undertaking their first commercial transactions for the purchase of emission reduction credits under the CDM, and to compete in the emerging global carbon market.

3.5.4 – Spanish Carbon Fund (SCF)

The SCF was created in 2004 to purchase greenhouse gas emission reductions from projects, developed under the Kyoto Protocol, to mitigate climate change while promoting the use of cleaner technologies and sustainable development in developing countries and countries with economies in transition.

Divided into two tranches since 2008, the SCF signed 14 emission reductions purchase agreements. With total commitments of USD 204 million, the fund has 71% of its capital pledged. Tranche 2, which has a Green Investment Scheme focus, signed its first emission reduction agreements in 2008, purchasing 236,254 tons of carbon dioxide (World Bank, 2010c).

There are two projects in Brazil on carbon finance, solid waste management and emission reduction, two in Mexico on transport and renewable wind energy, and two projects in Uruguay on landfill gas capture and renewable wind energy. No forestry-related projects were identified.

4 – ACCESS TO FOREST FINANCING

Financing is the mechanism in which money is mobilized, allocated, and used to finance investments based on projects. There are several aspects affecting investments and financing. Investments are generally higher when a good investment climate is in place, and there are proper, functioning and accessible financing mechanisms. These are among the most relevant factors considered in investment decisions.

There are several factors affecting investment climate and therefore also affecting financing. These factors influence the behaviour of all actors, including public institutions, individuals, private sector companies and other investors in the forestry projects, and determine location and size of investments and also the demand and access for forest financing to support the required investments.

This chapter assesses the existing barriers to mobilize, allocate and use funds that are available to support the implementation of non-legally binding instrument on all types of forests, in order to contribute to attaining sustainable forestry, with focus on LAC. It is examined issues regarding access to forest financing, the key barriers for accessing financing identified and consequent investments increase in forest management. It is also presented suggestions to overcome such barriers.

4.1 – BARRIERS FOR ACCESS TO FINANCING

The most relevant identified factors affecting forestry investments and financing are: (i) governance; (ii) law enforcement;(iii) transaction costs;(iv) fiscal policy; (v) land tenure and property rights; (vi) capacity building; (vii) infrastructure; (viii) financial system; and (ix) forest policy. These are considered the most relevant factors affecting investments and financing in most countries. They are presented and discussed below. Other factors, less relevant on a regional perspective, might be identified.

4.1.1 - Governance

Forest governance refers to governmental decisions about the management and use of forest resources and forest lands. These decisions involve a series of actors, rules, and practices both within and beyond the forest sector.

Good governance is a key element in improving economic efficiency and growth. Poor forest governance leads to illegal logging, unplanned land use and consequent forest conversion, corruption, and also constitutes a barrier for access to forest financing (UNFCCC, 2011b). The main aspects related to governance identified and that can be obstacles to achieving sustainable management of forests in LAC countries are (IDB, 2002a):

i. Lack of access to reliable information;
ii. Lack of resources and expertise;
iii. Lack of stable laws and forest policies;

iv. Low level of public participation in decision-making process;

v. Low level of trust, transparency and accountability;

vi. Low quality of country institutions;

vii. Weak regulatory regime;

viii. Prevalence of illegality and corruption;

ix. Weak coordination within different levels and sectors of government;

x. Weak institutional environment;

xi. Lack of awareness and understanding of the opportunities offered by forests in the sustainable development of nations, among decision makers in the ministries of finance, national planning agencies, and national financial institutions.

4.1.2 - Law Enforcement

Good governance is fundamental to create a good investment climate and has strong linkages with law enforcement. Law and order are a fundamental requirement for investment and entrepreneurship to flourish. Loss from theft and corruption represent a threat to property rights, private sector development and business competitiveness.

Problems in maintaining law and order have adverse impacts on business activity for many reasons that involve higher costs to control or avoid the consequences of environmental crime. Moreover, there is the cost of lost business opportunities since crime makes many business operations prohibitively risky. The essence of the impact of crime is that it constitutes a further tax on business (IDB, 2009).The main law enforcement barriers identified are presented below. These barriers represent obstacles for financing and investments in sustainable management of forests in LAC countries:

i. Legal frameworks are often inadequate or contradictory;

ii. Inadequate prosecution and punishment;

iii. Lack of independence in the judiciary;

iv. Weak penalties;

v. Continued impunity;

vi. Widespread corruption;

vii. Benefits to well-connected and politically protected groups;

viii. Weak institutional capacity.

4.1.3 - Transaction Costs

Markets function effectively when transaction costs are low. High transaction costs limit development and slow the growth of private businesses. In a high transaction cost scenario, agents will be less prone to enter in contracts, to buy and sell goods and services, and develop projects. When transaction costs are not appropriate, the incentives to build formal business are reduced, increasing the incentives for informality (IDB, 2009).

Transaction costs can be created by government regulations, by the market or other requirements (ITTO, 2009). The aspects contributing to increase transaction costs in LAC are presented below. They frequently represent obstacles to implement sustainable forest management:

i. Complexity of legislation and cost implications;

ii. High cost and complexity of forest certification;

iii. Difficulties to negotiate, draft, fulfil, and enforce contracts;

iv. Difficulties to comply with laws or regulations;

v. Difficulties to resolve disputes;

vi. Lack of adequate knowledge on forestry;

vii. Lack of attractiveness to businesses resulting from a poor investment climate;

viii. Lack of innovative incentives mechanisms;

ix. Lack of protection of property rights.

4.1.4 - Fiscal Policy

Fiscal policy is an instrument for macroeconomic management used by governments in the pursuit of development. Adequate tax policy, public expenditure and debt management can boost the LAC region's development by promoting growth and reducing poverty.

The performance of a country's fiscal system provides a snapshot of the social contract that links its government and its citizens. Publicly provided goods and services of reasonable quantity and quality for the one part, and transparent and progressive tax systems for the other, are signs of a healthy social contract. These two parts go hand in hand: if public goods such as health, education and infrastructure are scarce, low-quality or inequitably provided, the social contract is weakened. The same is true of fragile or regressive tax regimes (OECD, 2009).

There have been at least three common factors leading to structural fiscal deficits in many Latin American countries, including Argentina, Brazil, Mexico, and Colombia. In terms of revenue, there is a political problem in convincing the Congress to raise government revenues by increasing the VAT-rates or expanding the tax-base.

Many Latin American countries have succeeded in increasing income tax, although they contribute to only about 6% of GDP, less than half of that in Europe (14% of GDP). Individual income tax rates are considered relatively high, so the Congress are prone to approving tax-brakes for specific pressure-groups, leading to loopholes that increase tax-evasion. Indeed, tax-bases are subject to great improvement if exemptions are reduced.

In terms of expenditure, one main feature of the 1990s was fiscal decentralization deepening, which had been introduced in the early 1980s. However, this was through increasing the central government revenue sharing with the local governments, which generated escalating inflexibilities in terms of expenditure of public balance. The overall result has been structural budget deficits close to 3% of GDP at the Consolidated Public Sector, in the cases of Argentina, Brazil, and Colombia (ANIF, 2010).

The informal economy is widespread in Latin America and its existence is intimately related to a poorly conceived fiscal system, which predominates in most countries. The following fiscal policy-related barriers to investments and financing were identified. They represent obstacles for achieving the sustainable management of forests in LAC countries (OECD, 2009; IDB, 1999):

i. Budget rigidities;

ii. Fiscal balances achieved through declines in public infrastructure investment;

iii. High tax-evasion;

iv. Informality of companies and individuals;

v. Low public-sector expenditures in infrastructure;

vi. Low revenues from taxes;

vii. Rising spending;

viii. Small tax-base;

ix. Structural budget deficits;

x. Tax-breaks for specific pressure-groups;

xi. Unreliable collection of royalties and fees in public concessions.

4.1.5 - Land Tenure and Property Rights

Land is a fundamental determinant of agriculture and forestry development, and is directly linked to food security and livelihood, and sustainable forest activities. Land is a primary source of guarantee for obtaining credit from institutional providers, and land tenure security provides a foundation for forestry development (World Bank, 2007c).

Property rights are the foundation of competitiveness. Without secure property rights, many transactions in both goods and financial markets do not occur. If investors and entrepreneurs cannot use assets in activities that maximize returns, or if the protections provided by institutions raise the prospect of investments being lost, investments will not occur.

If assets cannot be freely bought and sold, they will not be acquired by those who can use them most productively. The weaker the system of property rights, the fewer the number of investors who will engage in economic activity that uses such assets (IDB, 2009). In general, the lack of legal land titles facilitates deforestation, illegal production and land disputes.The following identified land tenure and property rights barriers represent obstacles for achieving the sustainable management of forests in LAC countries:

i. Absence of efficient mechanisms for land legalization and land registries;

ii. Inadequate land registration system;

iii. Incomplete, partial or lack of land titles;

iv. Judicial insecurity produced by contradictions and inconsistencies;

v. Overlapping land titles;

vi. Land ownership conflicts among different landowners;

vii. Strong competition for titled land affects land prices.

4.1.6 - Capacity Building

Capacity building provides a range of non-financial inputs, improving operational and strategic services. These are the inputs that enterprises need to be able to find customers, design products, access the right technologies, train staff to use them and meet customer quality, meet quantity and delivery demands, manage and administer the business efficiently, develop and communicate effectively with partners and customers, and comply with legislation. The same applies for governments and to other agents and groups operating in the market to efficiently implement their policies (IIED, 2008). The following capacity building barriers have been identified as obstacles for achieving the sustainable management of forests in LAC countries:

i. Lack of a structured market information and intelligence system;

ii. Lack of legal and financial knowledge;

iii. Lack of specialized labour;

iv. Limitations to the institutions and entities specialized in training the labour force;

v. Low public spending on education;

vi. Low quality of public education;

vii. Low quality of technical assistance;

viii. Lack of capacity of governmental agencies.

4.1.7 - Infrastructure

Most LAC countries have significant infrastructure gaps, which affects most economic activities. The lack of a proper infrastructure is a result of low and often inefficient public investment, not compensated by private sector projects. A combination of many interrelated factors could contribute to explain unfavourable situations.

Many Latin American countries have prioritized fiscal discipline to restore macroeconomic and financial stability. Improvements in fiscal balances came at the expense of sharp declines in public infrastructure investment. These large shortfalls in key infrastructure categories are often considered one of the factors that explain LAC's low levels of economic growth and persistent levels of inequality and poverty (OECD, 2011).

The following infrastructure barriers, that represent obstacles to finance and investment on the sustainable management of forests in LAC countries, were identified:

i. Constant renegotiations of contracts and changes in contractual conditions;
ii. Deficient institutions;
iii. Flawed contract designs;
iv. Inadequate regulatory framework;
v. Lack of appropriate long-term planning;
vi. Low level of private participation in infrastructure projects;
vii. Macroeconomic shocks;
viii. Opaque procurement and concession processes;
ix. Poor fiscal policy.

4.1.8 - Financial System

Financial systems are a central element in funding investments, which do not function effectively in a weak institutional environment. Strong institutions are essential to facilitate economic growth and to increase competitiveness of a country (IDB, 2009). Financial systems provide investment, working capital, sometimes provided by businesses to one another in the value chain and sometimes from financial institutions (IIED, 2008).

The financial system barriers identified for the implementation of sustainable forest management in LAC countries are presented below (FAO, 2007b; MDIC, 2011; ETFRN, 2008; IIED, 2008; IDB, 2002a). The barriers are classified into two groups: barriers for the financial institutions and barriers for the recipients of funding.

i. Barriers for the Financial Institutions:
    a) Concentration of economic activity around a few principal products and increased risks;
    b) Difficulties for enforcing the law and protecting access rights to forest resources;
    c) Geographic dispersion and higher costs of reaching clients;
    d) Inadequate information about potential small and medium-sized enterprises;
    e) Inexperience of financial service providers in serving rural areas, hampering design of appropriate financial products;
    f) Inherent risks of the forestry business;
    g) Lack of knowledge of the governments about microfinance institutions and business-to-business financing, including capacity to regulate and promote them;

h) Lack of legally recognized collateral (e.g. land and standing forest resources) and enforceability on loan repayments or calling in of collateral;

i) Long-term nature of investments in the forestry sector;

j) Regulatory frameworks that penalize rural portfolios;

k) Lack of lender´s (financial institution) capacity to deliver financing to forest programs, including specialized staffing and training of staff.

ii. Barriers for the Recipients of Funding:

a) Lack of access to the formal financial system;

b) Small-scale enterprises and producers' inexperience working within the context of strict contractual arrangements;

c) Lack of land tenure and property rights;

d) Lack of a legal, political and institutional environment that can provide stability and security in the long-term.

4.1.9 - Forest Policy

A wide range of laws and regulations affect forest management. The forest-related laws and regulations can be regional, national or international, and include a great range of issues: i) Customary laws and norms, which are far more widely applied than is often assumed; ii) International laws/ regulations related to trade, human rights and the environment; iii) National constitutional provisions; and iv) National and local laws related to land tenure, human rights, conservation, wildlife and forestry.

In general, ownership rights, use and access to forests by local communities are often not recognized in forest-related laws, which tend to treat forests as public lands. Forest-related laws are frequently contradictory and incompatible, making the definition of what constitutes legal forest use highly contentious (CIFOR, 2006).The following forest policy barriers that can represent obstacles for achieving the sustainable management of forests in LAC countries (IDB, 2002a) were identified:

i. Confused application of legislation;

ii. Discrimination against small and collective forest-land and resource users, driving them to illegal practices;

iii. Environmental restrictions for the use of rural lands;

iv. Inflexible parameters to be equally applied in all properties;

v. Landowners do not receive payments for conserving the natural forests;

vi. Poor set of tools for protecting forests;

vii. Restrict forest access and use by local communities and preferential access to large-scale forestry enterprises;

viii. Inflexible and technically poor sustainable forest management legislation making its application economically unfeasible;

ix. SFM is not considered in national forestry plans, making it difficult for lenders (financial institutions) to participate in the implementation of national forest programs.

4.2 – SUGGESTIONS TO OVERCOME BARRIERS

Suggestions on changes needed to overcome the identified barriers, to increase investments in sustainable forest management and to improve financing efficiency, are presented in this section.

4.2.1- Business Environment

Private sector is not the only, but it is by far the major investor in forest-related initiatives. The private sector has also been the main instrument for forest financing. As a general rule, the public sector has the role to improve the business climate to facilitate investments. Financing mechanisms are among the factors to be considered in the process of investment facilitation. Main factors that influence decisions on forest-related investments, private or public, include:

i. Returns: sufficient returns (financial or other benefits) are a prerequisite; therefore, any factors that reduce the returns or profits from the investment can act as a deterrent;

ii. Risks: weighting returns against risks is important and investors generally demand much higher returns from operations or countries where risks are higher;

iii. Transaction Costs: high transaction costs can make investments and projects less attractive.

Transaction costs are a strong limitation to implement SFM, especially for poor countries or communities with limited access to technical and financial resources. A well-functioning institutional framework therefore minimizes distortions in economic transactions and keeps the cost of transacting low (World Bank, 2008c).

Actions are needed to overcome barriers and improve the business environment in the forest sector. The existing barriers affect not only the private sector, but also governments and other organizations investments. This creates limitations to implement sustainable forest management and reduce the benefits for the countries and the society.

4.2.2 – Actions to Overcome Barriers

In order to facilitate financing to achieve the sustainable management of forests in LAC countries, suggestions on areas for actions to overcome the barriers previously identified are presented below. The actions to improve conditions are grouped into macro-economic and institutional aspects, intra-sectorial issues and forest sector-related issues. A list of the most relevant points to be considered, based on the barriers identified, is presented for each one.

- **Macroeconomic and Institutional Aspects**

Governance, law enforcement, fiscal policy and infrastructure are macroeconomic and institutional aspects related to investment climate. Several barriers related to macroeconomic and institutional aspects have been identified in most LAC countries.

Governments and other national and international organizations can influence in trade flows and legal system, the regulatory framework, business practices, taxation, and other factors. This can facilitate or create difficulties and increase transaction costs faced by investors and entrepreneurs, and influence how forest activities are organized and implemented. An adequate regulatory and administrative framework and institutional structure is fundamental to improve governance and law enforcement.

Fiscal policy can be a key tool for economic, political and social development. Fiscal systems can provide the resources needed to carry out pro-growth investments and structural changes. Taxes and public expenditure can help to implement development policies and combat poverty. A change of approach is needed if LAC governments are fully to exploit the potential of fiscal policy as a development tool. Despite this positive overall trend in fiscal performance, Latin America still has a long way to go in terms of fiscal reform (OECD, 2011).

Infrastructure is a key issue in dealing with investment flow and finance. Better roads, ports and railroads reduce transportation costs, increasing the competitiveness and attract investments and finance. A stable and cost-effective provision of energy and telecommunications expand the production possibilities for companies. Furthermore, generalized access to infrastructure

services, from water and sanitation to transport infrastructure and telecommunications, also plays a key role in reducing income inequality and fighting poverty (OECD, 2011).

The main macro-economic and institutional relevant aspects that require attention in LAC countries, and need to be improved to facilitate sustainable forest management, can be summarized in the following points:

i. Establish a coherent relationship between different national policies and programs and the forest sector;

ii. Streamline legislation, increase its efficiency and effectiveness and reduce transaction costs;

iii. Improve governance and law enforcement;

iv. Create provisions to facilitate the development of a proper fiscal policy;

v. Improve the educational level;

vi. Ensure macro-economic stability;

vii. Invest in infrastructure.

- **Intra-Sectorial Issues**

Land tenure and property rights, financing system and other policies outside the forest sector are intra-sectorial issues that can affect investments and financing. Several barriers related to these issues were identified in this study.

Land tenure problems limit access to financial resources. Secure property rights tend to facilitate access to credits, and are associated with higher investment, more intensive farming, and a stronger commitment to preserve natural resources. The ability to use land as collateral enhances financial market development and promotes greater investment. In particular, secure land tenure and property rights generally have a much higher market value. While this is not sufficient for a well-functioning financial system, insecure property rights definitely reduce financial system development (IDB, 2009).

Developing countries, in special, need to explore and encourage all sources and mechanisms of funding for the forest sector to achieve SFM. The private sector is expected to play the lead role in global economic activities (World Bank, 2008d), therefore, barriers to access finance need to be eliminated.

There are also policies outside the forest sector affecting investments in sustainable forest management. For instance, agriculture competes with the forests in land use, financing and other aspects, and some countries have designed agriculture incentive policies that are contributing to reduce the competitiveness of the forest sector.

Actions needed to reduce/ eliminate barriers related to the intra-sectorial issues in order to facilitate the implementation of sustainable forest management, can be summarized into the following points:

i. Ensuring stable and clear policies related to land tenure, property rights and forest concessions;

ii. Adjust intra-sectorial policies (agriculture, energy, infrastructure, trade and others) considering the national efforts to promote sustainable forest management.

iii. Create mechanisms to facilitate the access to financing.

- **Forest Sector Related Issues**

There is a set of forest-related issues that affect investments and financing of sustainable forest management. The most important issues are related to forest policy and capacity building.

Forestry policy can be conceived to improve family income and to address other aspects that cause poverty. But it can also address aspects such as access to markets, land tenure security, workers' rights, development of skills, development of infrastructure and good governance. A strong commitment to commercial forestry would also lead governments to better address issues, such as the collection and equitable distribution of revenues and curbing illegal logging (FAO, 2006c).

Forest policies are complemented by national governments programs to facilitate the implementation of SFM in the national forestry plan and support national development strategy. The forest policies should take into consideration other relevant national and international issues such as poverty reduction, biodiversity strategies, climate change, soil conservation, ecosystem sustainability, and other aspects.

SFM requires adequate capacity in planning, implementation, monitoring and enforcement. Capacity building should encompass all stakeholders from public and private sectors including policy-makers, forest managers, forestry professionals, technicians, skilled workers, NGOs and communities.

Education spending is the best example of how fiscal policy can foster development, not just economic growth, in LAC countries. The challenge is to channel public spending towards policies that encourage best practices and secure the social support needed to leverage the state's own actions. Certainly, there is a need for more expenditure on the key forest areas of physical and human capital formation, but the priority for the region is to improve the quality of that expenditure by making it more efficient and better targeted (OECD, 2009). The main actions related to forest issues needed to eliminate barriers for the implementation of sustainable forest management are:

i. Improve the legal and regulatory framework related to forestry to increase efficiency and reduce transaction costs;

ii. Create and strength a national and international fair market for forest goods and services, with an equitable environment of competitiveness based on legality and sustainable management;

iii. Develop a comprehensive cost-benefit analysis about land-use changes and incorporation of timber and non-timber forest products, services and values as well as traditional forest-related knowledge;

iv. Develop innovative and efficient instruments and mechanisms, and facilitate the access to investment finance;

v. Promote effective participation and involvement of local communities, forest owners, indigenous people and other stakeholders in forest decision-making processes;

vi. Ensure training, skills development and research for the forestry sector;

vii. Develop innovative policy approaches and positive incentives for SFM, such as the PES and REDD approaches.

5 – SUCCESSFUL COUNTRY EXPERIENCES AND INITIATIVES

This chapter examines identified successful country experiences and financing initiatives towards sustainable forest management. Successful forestry-related experiences and financing initiatives are presented considering two groups: (i) Selected countries initiatives and; (ii) Latin America and the Caribbean countries initiatives.The selected countries cover basically the most competitive/relevant countries in/for the forest sector in the world. The countries selected were the United States, Canada, Germany, Sweden, Finland, and China.

5.1 – SELECTED COUNTRIES INITIATIVES

Selected successful countries forestry-related experiences and financing initiatives are analysed in this section. The examined countries were selected among the most competitive and/or relevant countries in the forest sector.The basic competitiveness indicator considered was the share in the international forest products market. In 2010, the most competitive countries in the total global exports of forest products of USD 224 billion were: the United States (10.7%), Canada (9.5%), Germany (9.1%), Sweden (6.9%), Finland (5.9%), and China (4.8%).

Competitiveness will be crucial for the achievement of sustainable forest management in Latin America and the Caribbean. Successful experiences and financing initiatives of the most competitive countries in the forest sector are excellent benchmark for developing countries.The selected countries have implemented several successful initiatives along the last years. The consultant selected a limited number of the successful initiatives to report. The selected country initiatives are summarized in table 58, and more detailed information are presented below.

Table 58 – Successful Initiatives from Selected Countries

Country	Project	
	Name	Type
United States	FIA	Natural Forests Sustainable Management
	NFS	Natural Forests Sustainable Management
Canada	AFI	Sustainable Development
	NFD	Governance
Germany	Forest Groupings	Natural Forests Sustainable Management
Sweden	KOMET	Natural Forests Conservation
	Carbon Tax	Climate Change
Finland	ISTO	Climate Change
	METSO	Biodiversity
China	Four Wastelands Auction Policy	Sustainable Land Management
	Grain for Green	Forest Landscape Restoration
	NFCP	Capacity Building

Sources: BMELV (2011); CFS (2011); LTU (2005); Metsähallitus (2011); MMM (2010; 2011a,b); NFD (2011); Science (2000); Skogsstyrelsen (2012); UNCCD (2010); USDA Forest Service (2011, 2012), adapted by the Consultant.

5.1.1 - United States

In 2010, the United States exported USD 24 billion of forest products, representing 10.7% of the total global international market (FAO, 2012a). Between 1990 and 2010, the forest area of the United States increased from 296 to 304 million hectares, or plus 7.7 million hectares, an increase of 3% in the country forest area. Forests cover 33% of the country total land area (FAO, 2010c).

Many private and public initiatives have been implemented along the last years to ensure the sustainable management of forests in United States. Two important forestry-related successful initiatives of the United States Government were identified, and are worth reporting. They are the Forest Inventory and Analysis (FIA) and the National Forest System (NFS).

- **Forest Inventory and Analysis (FIA)**

The FIA program of the United States Forest Service (USFS), under the US Department of Agriculture, provides the information needed to assess forests in the US. This program projects how forests are likely to appear 10 to 50 years from now. This enables the USFS to evaluate whether current forest management practices are sustainable in the long run and to assess whether current policies are promoting sustainable development (USFS, 2012).FIA reports on: (i) Status and trends in forest area and location; (ii) Species, size, and health of trees; (iii) Total tree growth, mortality, and removals by harvest; (iv) Wood production and utilization rates by various products; (v) Forest land ownership.

The USFS has enhanced the FIA program by changing from a periodic survey to an annual survey, by increasing its capacity to analyse and publish data, and by expanding the scope of its data collection to include soil, understory vegetation, tree crown conditions, coarse woody debris, and lichen community composition on a subsample of its plots. FIA is managed by the Research and Development organization within the USFS in cooperation with State and Private Forestry and National Forest Systems. FIA initiated the first inventories in 1930 (USFS, 2012).

- **National Forest System (NFS)**

The objective of the US Forest Service's forest management program is to ensure that the national forests are managed in an ecologically sustainable manner. The NFS were originally envisioned as working forests with multiple objectives: i) To improve and protect the forest; ii) To secure favourable watershed conditions, and iii) To furnish a continuous supply of timber for the use of citizens of the US.Forest management objectives have since expanded and evolved to include ecological restoration and protection, research and product development, fire hazard reduction, and the maintenance of healthy forests. Forest Service manages timber sales, and other vegetation management techniques to achieve these objectives (USFS, 2011).

In the 1970s, concerns about environmental impacts and conflicting uses escalated, leading to additional environmental protection measures. As a result, the USFS now operates federal timber sales under an effective environmental protection policy. In response to the public controversy and a greater understanding of how management actions influence the landscape, today's timber sale levels have dropped by two-thirds (back to the pre-1950 levels), even though timber demand continues to increase at a rate of about 1% annually. In addition clear-cut harvests have been reduced by 80% over the last decade.

Approximately 73% of the 76 million hectares of National Forests are considered forested. Of that forested land, 35% is available for regularly scheduled timber harvest and about 0.5% of those trees are harvested annually. The remaining 65% of the forested land is designated for non-timber uses, such as wilderness and other areas set aside for recreation, or cannot be harvested due to environmental conditions, such as steep slopes and fragile soils (USFS, 2011).

5.1.2 – Canada

Canada was in 2010 the second largest share of the international forest products market, with exports of USD 21 billion, representing 9.5% of the total global exports (FAO, 2012a). Between 1990 and 2010, the forest area of Canada remained stable at 310 million hectares, or 34% of the country total land area (FAO, 2010c).

Canada has also several initiatives to promote sustainable management of forests. Two important forestry-related successful initiatives of the government of Canada were selected to be reported. The initiatives are the Aboriginal Forestry Initiative (AFI) and the National Forestry Database of Canada (NFD).

- **Aboriginal Forestry Initiative (AFI)**

The AFI represents a new approach from the government of Canada to foster enhanced aboriginal participation in the competitive and sustainable change of Canada's forest sector. Through the Canadian Forest Service (CFS), the Natural Resources Canada leads the AFI, in partnership with over 15 federal departments and agencies.

The AFI supports the Federal Framework for Aboriginal Economic Development. With a focus on economic development, the AFI empowers aboriginal entrepreneurs in the forest sector, by serving as a knowledge centre for aboriginal forestry and forest sector innovation, and to facilitate knowledge exchange and coordination of federal and other support to opportunity-ready aboriginal forestry projects and partnerships (CFS, 2011).

- **National Forestry Database of Canada (NFD)**

The NFD, established in 1990, is a partnership between the federal government of Canada and provincial and territorial governments within the country. The CFS which developed and maintains the database is responsible for disseminating national forestry statistics. It has the following objectives to: (i) Describe forest management and its impact on the forest resource; (ii) Develop a public information program based on the database; and, (iii) Provide reliable, timely information to the provincial and federal policy processes.

A Working Group composed by a representative from each of the provincial and territorial forest management agencies, along with representatives from CFS, provides guidance on enhancements to the database and improving methods of reporting the statistics. The NFD is used to compile national statistics. Most of the data are provided by the provincial or territorial resource management organizations. Federal land data are provided by the responsible federal departments and compiled by the CFS (NFD, 2011).

5.1.3 – Germany

Germany was in 2010 the third largest in the international market for forest products, with exports of USD 20 billion, representing 9.1% of the total global exports (FAO, 2012a). Between 1990 and 2010, the forest area of Germany increased from 10.7 to 11.1 million hectares, an increase of the country forest area of 3%. Forests represented 32% of Germany's total land area in 2010 (FAO, 2010c). Among the important forestry-related successful initiative of the government of Germany identified is the Forest Groupings. Information on this initiative is presented below.

- **Forest Groupings**

Forests increased by approximately 1 million hectares in Germany over the past four decades. The timber stocks in Germany account for 320 m^3 per hectare, with the annual timber increment totalling around 100 million m^3 in accessible forest without logging restrictions in the main stand today, i.e. around 9.5 m^3/ha.As a result of this potential Germany occupies a leading place in the forest sector when compared with other European countries. This is largely a result of the efforts

to rebuild high-yielding and ecologically valuable forests after the destruction of large tracts of forests over the past centuries (BMELV, 2011).

Many forest owners in Germany own small and fragmented forests that are hard to manage. To facilitate management of small properties “forestry groupings” were developed. They were designed to improve the economic situation of forest activities in small properties. Under the scheme forest operations can be conducted as a joint service, including the harvesting of wood and other forest products, the planting and tending of forest crops, silvicultural treatment operations, the building and maintenance of forest roads. In addition, forest products can be jointly marketed or machines purchased for joint use.

Such types of cooperation have already existed since the mid-19th century. In 1969, the groupings were established legally. In Germany, there are currently around 4,300 forestry groupings with more than 400,000 members who together own 3.8 million hectares of forests. This corresponds to more than one third of Germany’s forest area (BMELV, 2011).

5.1.4 – Sweden

Sweden was the fourth largest in the international market of forest products. Total exports reached USD15 billion, representing 6.9% of the global total exports (FAO, 2012a). Between 1990 and 2010 the forest area of Sweden also increased, and passed from 27.3 to 28.2 million hectares, an increase of 3% in the country forest area. Forests represented 69% of Sweden’s total land area in 2010 (FAO, 2010c). The country has several successful initiatives to promote sustainable forest management. Some of the relevant forestry-related successful initiatives of Sweden are presented below.

- **Carbon Tax**

Between 1990 and 2006 Sweden cut its carbon emissions by 9%, largely exceeding the target set by the Kyoto Protocol, while benefiting from economic growth of 44% in fixed prices. Under the Kyoto Protocol, Sweden could have increased its emissions by 4% over 1990 levels, but the parliament of Sweden decided to cut emissions by 4%. The main reason for this success was the introduction of a carbon tax, in 1991 (The Guardian, 2008).

In Sweden, there are three different taxes levied on energy products, which are mainly fossil fuels. The taxes are: i) Energy tax; ii) Sulphur tax; and iii) Carbon tax. Energy taxation has been used as a policy instrument since the oil crisis of the 1970s to support renewable energy and nuclear power. Energy tax was reduced by half in 1991 during the tax reform, simultaneously with the introduction of a carbon tax, which did not tax biofuels, such as firewood, ethanol, peat, and wastes. The carbon tax has doubled between 1991 and 2001, going from USD 35/ ton of CO_2 in 1991 to USD 77/ton of CO_2 in 2001. The carbon tax over the industry remained unchanged (LTU, 2005).

Through this reform, the taxation on fossil fuels in district heating systems increased by levels between 30 and 160%, depending on the fuel type used, whereas biofuel remained untaxed. The energy tax on fossil fuels, especially on petrol, and on other oil products, is high and acts therefore as a powerful complement to the carbon tax. In total, the tax level increased for fuels used in buildings and district heating systems, but did not change for other uses.

Between 1980 and 2002, the use of biomass energy in Sweden has increased by 88%. In 2002 it represented 89 TWh, equivalent to 14% of the total Swedish energy supply, making Sweden a world leader in biomass energy use. Today, Sweden is one of the leading district heating countries in the world, with an annual heat delivery of 40 TWh. Moreover, biomass-based heat from the district heating system has much lower cost than fossil fuels-based heat. The most obvious effect of the carbon tax has been an increased use of biomass in the Swedish district heating system (LTU, 2005).

The impact of the carbon tax on the energy and resource efficiency of the Swedish industry has probably been rather limited for three reasons: (i) Carbon tax on industry is only 50% of the

general level; (ii) Only a relatively small fraction (30%) of the energy supply to industry was fossil fuel-based when the tax was introduced and; (iii) For most industrial companies, the energy cost is a relatively small fraction of the total cost, and has therefore low priority (OECD, 2001).

- **KOMET**

The KOMET-program is a joint program between three government bodies, initiated by the Swedish government. The aim of the program is to encourage landowners to protect forests on their properties and inform them of which options are available for habitat protection. The program, which began in 2010, will continue for five years. One of the program most important tasks is informing land owners which areas have high conservation value and the different ways these areas can be protected.

Within the project, an information campaign has been developed, called “My Conservation”. Through the campaign, the project hopes to encourage land owners to become interested in conservation and take steps in the protection of their forests. Joining the program is voluntary.The forms of legal protection that are offered are the same as in the rest of the country: (i) Nature reserves; (ii) Habitat protection areas; and (iii) Nature conservation agreements. For the land owner to receive economic compensation for an area to be protected, the area must have high conservation value, as the state only funds the protection of forest with high value and other areas important for biodiversity preservation.

The land owner notifies its interest to either the Swedish Forest Agency or the local County Administrative Board, preferably with its preferences for the form of legal protection. After that, it is contacted by an administrative officer to determine if its property has any suitable areas for protection and to discuss its wishes on the form of protection.

If the area is to be set aside has high conservation value, its notification of interest is included in the periodic ranking of priority areas for conservation. Its notification is compared to others and ranked based on priority for protection according to the National Strategy for the Legal Protection of Forest Land. If its notification is not prioritized at the first ranking, it is kept for the next ranking. When areas prioritized for conservation are determined, the administrative officer contacts the landowner to discuss the form of protection and determination of boundaries. After this a valuation of the forest is done and economic compensation determined (Skogsstyrelsen, 2012).

5.1.5 – Finland

Finland was the fifth largest exporter of forest products in 2010, with total exports of USD 13 billion, representing 5.9% of the total global exports (FAO, 2012a). Between 1990 and 2010, the forest area of Finland increased slightly, from 21.9 to 22.2 million hectares, an increase equivalent to 1%. This is an expressive increase considering that forests already represent 73% of Finland’s total land area (FAO, 2010c). Finland is particularly active in forest-related initiatives aiming to promote sustainable management. Among relevant forestry-related successful initiatives of Finland are the ISTO and METSO initiatives. Information on these two initiatives are presented below.

- **Climate Change Adaptation Research Program (ISTO)**

The ISTO was launched as part of the implementation of the National Strategy for Adaptation to Climate Change, aiming to produce information that will facilitate the planning of practical adaptation measures.

Studies have been carried out under the supervision of various institutes by means of project funding from various ministries. Over the period 2006-2010 funding totalling USD 0.65 million was allocated to 30 research projects. Major funding providers included the Ministry of Agriculture and Forestry and the Finnish Environmental Cluster Research Program of the

Ministry of the Environment. The Coordination Group for Adaptation to Climate Change steers the ISTO Program, defines priorities and organizes evaluation (MMM, 2011a).

Among the forestry-related projects under the ISTO, is the "Pine reforestation material for the year 2050". The aim of this project is to look for essential properties of survival towards the year 2050 and pre-select pine material which fulfils the demands concerning growth period, dormancy breakdown, among others. After the tests in controlled greenhouse conditions and freezing tests, the pre-selected families from Finnish, Swedish and Latvian material are multiplied, using vegetative propagation. Development of an efficient selection and testing method is also a part of the study (MMM, 2010).

- **Forest Biodiversity Program for Southern Finland (METSO)**

The METSO 2008–2016 was approved by the Finnish Government in March 2008. It promotes voluntary conservation schemes similar to those tested in the program's pilot phase (2002–2007). The objective of the program is to end the decline of forest habitats and forest species and to stabilize the positive development in natural biodiversity. The action program presents measures aimed both at developing the network of protected areas and nature management in commercially managed forests (Metsähallitus, 2011).

The action program focuses on privately-owned forests, but Metsähallitus also has a key role in implementing the program. Metsähallitus is a state enterprise that administers more than 12 million hectares of state-owned land and water areas in Finland. Metsähallitus has the challenging responsibility of managing and using these areas in a way that benefits Finnish society to the greatest extent possible. Under the METSO, projects involving Metsähallitus include: (i) Collecting basic data on the protected areas; (ii) Developing the network of protected areas; (iii) Nature management measures in commercial forests; (iv) Restoration and nature management of protected areas (Metsähallitus, 2011).

5.1.6 – China

China has currently a significant share of the international trade of forest products. In 2010 China was the sixth largest exporter of forest products, with exports of USD 11 billion, representing 4.8% of the total global exports (FAO, 2012a). Between 1990 and 2010, the forest area of China increased from 157 to 257 million hectares, an increase of 32% in the forest area. Forests represented 22% of China's total land area in 2010 (FAO, 2010c). Relevant forest-related programs of the government of China are the Four Wastelands Auction Policy, the Grain for Green, and the Natural Forest Conservation Program (NFCP).

- **Four Wastelands Auction Policy**

China has been suffering from serious land degradation and soil erosion, which represent important economic and social challenges for the country. The government-led change started in the 1980s, but the innovative program of the Four Wastelands Policy began in 1996. Within this program, farmers could buy tracts of land through negotiated sales. This policy gave contracts to farmers and rights to economic benefits generated from the planting of crops, trees and grasses. In exchange, farmers should engage in sustainable land management practices, controlling erosion. This policy has been combined with the introduction of soil erosion control fees for companies, making them responsible for all erosion generated by their activities. The project main actors are the Government of China and the private sector (UNCCD, 2010). In spite of the problems, the China's Four Wastelands Auction Policy has been considered as a breakthrough land policy.

- **Grain for Green**

The Grain for Green project was established to eradicate rural poverty, combat desertification and ecological degradation in China, focusing on areas with steep slope and erosion-prone areas. Around 15 million farmers taking part in the project received compensation for setting

aside their land either in the form of cash, seedlings or grain. The two main assessments of the project were the cost-effectiveness and the sustainability of the program's achievements. From 1999 to 2008 about 8.2 million hectares of farmland were converted into forestland.

The project has brought some controversial results. It is considered as a lucrative program from the farmers' point of view, as they receive more payments for not planting crops than by planting, and gain additional family labour time no longer needed on the land, but at the same time some major concerns arose regarding proper measurement and sustainability of the program itself. The government cannot guarantee such support payments indefinitely, but, on the other hand, the Grain for Green project cannot ensure that farmers would not go back to planting crops on the currently set-aside lands once the project is over.

The project main challenges are: (i) Measuring the environmental benefits of each site; (ii) Uncertainty over the lack of property rights and responsibility over planted trees; (iii) Threat of failure to plant trees with further economic benefit (UNCCD, 2010).

- **Natural Forest Conservation Program (NFCP)**

A new forest policy has been adopted in China in 1998 called the Natural Forest Conservation Program-NFCP. The program emphasizes expansion of natural forests and increasing the productivity of forest plantations. This policy is being implemented with a new combination of policy tools, which may have relevance for other countries, particularly developing countries (Science, 2000).

NFCP's purposes are to: (i) Restore natural forests in ecologically sensitive areas; (ii) Plant forests for soil and water protection; (iii) Increase timber production in forest plantations; (iv) Protect existing natural forests from over exploitation; and, (v) Maintain the multiple-use policy in natural forests. The NFCP applies to 18 provinces and autonomous regions, which contain the upstream regions of major river systems, including the Yellow and Yangtze Rivers, and which have suffered massive ecological and environmental degradation during the past 50 years (Science, 2000). The target area is divided into two priority regions. The state forest regions are classified as the first priority for NFCP. The two priority regions receive different levels of financial support from the central government, ranging from 20 to 100% of all costs.

NFCP is managed by the Centre for Natural Forest Conservation and Management (CNFCM), which is under the State Forestry Administration. The CNFCM is applying a mixture of public policy instruments to achieve the purposes of NFCP: (i) Technical training and education; (ii) Land management planning; (iii) Mandatory conversion of marginal farmlands to forestlands; (iv) Re-settlement and re-training of forest dwellers; (v) Share private ownership; (vi) Expanded research (Science, 2000).

5.2 – SUCCESSFUL INITIATIVES IN LATIN AMERICA AND CARIBBEAN COUNTRIES

The main Latin America and Caribbean forestry-related identified budgets are summarized in Table 59. The 48 countries and territories of the LAC region sum together forest area of 956 million hectares. Among them, 22 countries with over 1 million hectares of total forest cover were selected for examining governmental forest financing. From those selected countries, 18 countries of identified forestry-related budgets sum together forest area of 911 million hectares, corresponding to 95% of the region total. These budgets summed altogether an average investment of USD 1.3 billion per year over the 2006-2011 timeframe.

Table 59 – Identified Forestry-Related Governmental Budgets in Latin America and the Caribbean

Country/Project Type	USD Million per Year	Share
Argentina	50	3.8%
Bolivia	60	4.6%
Brazil	387	29.5%

Country/Project Type	USD Million per Year	Share
Chile	39	3.0%
Colombia	146	11.2%
Costa Rica	37	2.8%
Dominican Republic	3	0.3%
Ecuador	24	1.8%
El Salvador	1	0.1%
Guatemala	13	1.0%
Honduras	104	8.0%
Mexico	337	25.7%
Nicaragua	16	1.2%
Panama	25	1.9%
Paraguay	5	0.3%
Peru	42	3.2%
Uruguay	14	1.1%
Venezuela	7	0.5%
Capacity Building	168	12.8%
Forest and Landscape Restoration	154	11.8%
Governance	7	0.5%
Natural Forests Conservation	104	7.9%
Natural Forests Sustainable Management	119	9.1%
Payment for Environmental Services	134	10.3%
Forest Plantation for Non-Wood Purposes	76	5.8%
Forest Plantation for Wood Purposes	488	37.3%
Sustainable Land Management	60	4.6%
TOTAL	**1,310**	**100.0%**

Source: ABRAF (2011); ABT (2011); ANA (2012c,d); ANAM (2010); BNDES (2010, 2012f); CATIE (2011); CBD (2009); CONAF (2012c); CONAP (2011); CONEVAL (2011); CONPES (2009); EMBRAPA (2005); FAO (2007c); GCP (2010); IBAMA (2012); ICMBIO (2012); IEF (2012); INFOR (2010); INE (2009); IPEA (2006); MADS (2012); MAGyP (2010); MARENA (2011); MDIC (2010d), MI (2010); MINAG (2011); MINAMB (2011); MINREL (2012); MMA (2011, 2012); MMAyRN (2011); MTOP (2012); PFN (2010); PROFLORESTAL (2012); SAPE (2011); SAyDS (2008); SEAM (2012); SERNAP (2012); SFB (2011a); STCP (2012); UCJSC (2007), adapted by the Consultant.

Most of financing initiatives are related to forest plantation for wood purposes (37%), capacity building (13%) and forest and landscape restoration (12%). More details on each country successful experiences and financing initiatives under these identified forestry-related governmental budgets are presented in the following sections.

5.2.1 – Argentina

In Argentina, the forestry-related governmental investments averaged almost USD 51 million per year between 2009 and 2020, implemented under two ministries: Ministry of Agriculture, Livestock and Fisheries (MAGyP), with 49.9% of the total, and the Secretariat of Environment and Sustainable Development (SAyDS), with 50.1% (see Table 60).

Table 60 –Forestry-Related Governmental Investments in Argentina (2010-2020)

Organization	Investment (USD Million per year)	Share
MAGyP	24.9	49.5%
SAyDS	25.5	50.5%
Total	**50.4**	**100.0%**

Source: MAGyP (2010); SAyDS (2008), adapted by the Consultant.

- **Ministry of Agriculture, Livestock and Fisheries of Argentina (MAGyP)**

The Ministry of Agriculture, Livestock and Fisheries of Argentina (MAGyP) is responsible for developing and implementing forestry policies, plans and programs, coordinating the interests of national provincial governments and the different subsectors (MAGyP, 2010).During the 1990s, the federal government supported the forest plantation program. The Forest Plantations Promotion Regime (RPPF), established in 1992 provided non-repayable financial support to sustainably manage forest plantations (Renolfi & Cardona, 2005).

The RPPF was in force until 1999, when the Forest Promotion Law 25,080/1999 was published. This law sought to consolidate the RPPF, establishing a special economic and tax regime for the promotion of investments in forestry, called Certificate of Forest Incentive (CIF). The forestry incentives include the following tax regime and economic benefits to forestry-related investments:

i. Tax Stability: a 30 to 50 year period of tax stability is granted by the national government for companies with forestry investment projects;
ii. Accelerated Depreciation of Capital Goods: investment in equipment, construction and infrastructure can be depreciated during the first three years of operations. Fixed assets, including machinery, vehicles and facilities can be depreciated at one third of their value per year beginning with the start-up year;
iii. VAT Refund: applies to the purchase or import of goods or services to be used in the production process (accelerated return of VAT by 21%);
iv. Non-Refundable Financial Aid: companies that own less than 500 hectares can receive non-refundable financial aid on a per hectare basis, in an amount that depends on the region, tree species, and the specific forestry activities to be performed *(MRECIC, 2010);*
v. Tax breaks on assets, real estate, sales, and gross income from state and municipal governments.

In 2012, the MAGyP expects to invest a total of USD 23 million in the CIF. In many regions of Argentina, this policy has led to effective responses of forest owners, attracting large investments and generating jobs. As result, the planted forest areas increased, reaching over 1 million hectares. The afforestation rate increased from approximately 18,000 hectares per year in the 1990s to around 100,000 per year in the 2000s (Renolfi & Cardona, 2005).In the analysis of the Forestry Promotion Law and its implementation, some strengths and weaknesses were identified (Renolfi & Cardona, 2005). The Law strengths are:

(i) The grant amount is calculated correctly;
(ii) Enough budget for project financing;
(iii) The program financial benefits recognize inflation in the cost of implementation, constantly updating the grant amount;
(iv) Standardization of the payment of financial support increased willingness to invest in forestry; and,
(v) Increasing forest-industry investments, in response to a growing sustainable offer of timber from planted forests.

The weaknesses identified in the Law and its implementation are:

(i) Lack of extensive information and dissemination of the scheme´s benefits;
(ii) Excessive bureaucracy;
(iii) Delay in the approval and certification of plans;
(iv) Lack of flexibility in collecting loan payments;
(v) Insufficient communication between the national and provincial public institutions;
(vi) Lack of interests of the provincial institutions in monitoring the projects;
(vii) Slow implementation of certain tax benefits under the Law 25,080/99 decreased the investments overtime;
(viii) The discontinuity in the non-refundable payment of support discouraged the establishment of new forests in small and medium-sized properties.

- *National Institute of Agricultural Technology of Argentina (INTA)*

The National Institute of Agricultural Technology of Argentina (INTA)is a state agency under MAGyP, established in 1956, aiming at developing research and technological innovation in the rural value chains to improve its competitiveness and promote sustainable development. INTA develops the following projects to support forest-related activities: (i) Domestication of native forest species; (ii) Sustainable management of planted forests for high-quality production of timber and environmental services; (iii) Genetic improvement of introduced tree species for high-value uses; and, (iv) Agroforestry systems establishment, management and evaluation (INTA, 2012).

The Program of Domestication and Improvement of Native and Introduced High Value Use Forest Species *(*PROMEF)was launched in July 2010. The overall objective is to generate improved genetic material of native and introduced tree species that will enhance and diversify the supply of quality wood, improving the profitability and sustainability of the forest productive chain across the country while preserving the genetic resources. The total amount allocated by MAGyP is USD 1.8 million, from the sustainable forest plantations component (MAGyP, 2010).

PROMEF considers the forest chain based on plantation of fast-growing conifers (Pinus and Pseudotsuga) and broadleaved (Eucalyptus, Corymbia, Grevillea and Salicaceae) tree species, aiming at producing high quality wood. The expected results are: (i) Availability of reproductive material (seeds and/or clones) improved for wood quality attributes of the maincultivated species, including native and introduced species of new high-value timber; (ii) Identification of genetic resources conservation units of the native genera of Prosopis, Nothofagus, Cedrela and Cordia; (iii) Having original genetic material in the germplasm bank system of the National Institute of Agriculture Technology (INTA); (iv) Availability of materials of inter specific hybrids of pine and eucalypt species; (v) Availability of specialized laboratories and non-destructive evaluation technologies of wood properties; and, (vi) Capacity building (MAGyP, 2010).

The direct impacts of the implementation of this program were: (i) Increase and diversification of quality timber supply for various forest industries; (ii) higher yield per hectare; (iii) Improved final product quality; (v) Enhanced utilization of marginal plantation areas; (vi) Reduced forest rotation period; (vii) Reduction of forest establishment and harvesting costs; (viii) Expansion of forest area; (ix) Increased investments in forestry and related industries; and, (x) Further development of domestic demand (INTA, 2010).

- **Secretariat of Environment, Development and Sustainable Development of Argentina (SAyDS)**

In 2009 the implementation of Law 26.331 on the “Minimum Budget for Environmental Protection of Primary Forests” was enforced to impulse the development, conservation and restoration of primary forests, through the granting of non-refundable funds assigned by the National Budget to finance projects and strengthen the institutional structures that tend to complement such objectives. As of the end of 2012 approximately 650 million pesos were distributed.

At the same rate, through the Social Program of Forests (PROSOBO) created by Decree 1332/02, technical and financial assistance has been provided to support rural and forest dependent communities, to prevent estrangement and to ensure the sustainability of their activities.

5.2.2 – Bolivia

In Bolivia, the forestry-related investments averaged USD 60 million per year between 2008 and 2015, and are distributed in two ministries: The Ministry of Environment and Water of Bolivia (MMAyA), with 74% of the total, and the Ministry of Rural Development and Land of Bolivia (MDRyT), with 26% (see Table 61).

Table 61 – Forestry-Related Governmental Investments in Bolivia (2008-2015)

Organization	Investment (USD Million per year)	Share
MMAyA	44.4	73.7%
MDRyT	15.8	26.3%
Total	**60.2**	**100.0%**

Source: ABT (2011); SERNAP (2012), adapted by the Consultant.

- **Ministry of Rural Development and Land of Bolivia (MDRyT)**

The Ministry of Rural Development and Land of Bolivia (MDRyT) is the public institution of the Government of Bolivia responsible for defining and implementing policies to promote, facilitate, regulate and coordinate the integrated rural development, agriculture, forestry, aquaculture and coca cultivation, in a sustainable manner. It also seeks to create a new structure of tenure and access to land and forests, creating job opportunities for farm workers, communities and rural economic organizations, indigenous people in the business sector, under the principles of quality, equity, inclusion, transparency, reciprocity and cultural identity in search of food security and development (MDRyT, 2011).

- *Forest and Land Authority of Bolivia (ABT)*

The Forest and Land Authority of Bolivia (ABT), under MDRyT, aims to administer the Bolivian forests and lands, protecting, regulating, overseeing and controlling human activities, promoting sustainable development and integrated management for the benefit of the Bolivian people (ABT, 2011). The forestry-related investment of this agency was USD 13.4 million in 2010.

- *National Fund for Forest Development of Bolivia (FONABOSQUE)*

The National Fund for Forest Development of Bolivia (FONABOSQUE), under MDRyT, aims to financing programs and projects directed to sustainable forest development. Its 2011 budget was USD 2.4 million. Its objectives are: (i) Promoting the establishment of forest plantations; (ii) Incentive sustainable management of natural forests; (iii) Support research and forestry technical training (FONABOSQUE, 2012).

- **Ministry of Environment and Water of Bolivia (MMAyA)**

The Ministry of Environment and Water of Bolivia (MMAyA) develops and implements public policies, legislation, programs, plans and projects related to sustainable conservation, adaptation, and use of environmental resources (MMAyA, 2012).

- *National Service for Protected Areas of Bolivia (SERNAP)*

The National Service for Protected Areas of Bolivia (SERNAP), under MMAyA, aims to: (i) Set forthrules and policies for the integrated management of protected areas that make up the National System for Protected Areas (SNAP); (ii) Plan, manage and oversee the comprehensive management of national protected areas; (iii) Ensure biodiversity conservation in protected areas; (iv) Regulate, audit and control activities in protected areas within SNAP; (v) Authorize participation in protected area management; (vi) Authorize biodiversity conservation, scientific research and tourism in protected areas (SERNAP, 2012).

Between 2008 and 2015, SERNAP invested an average of USD 44 million per year in forestry-related activities. The largest investment is in the Program of Support to Sustainable Conservation of Biodiversity (PACSBio), with 40% of the total value.

5.2.3 – Brazil

In Brazil, the forestry-related investments averaged almost USD 387 million per year between 2006 and 2011, and are distributed over five ministries: The Ministryof Development Industryand Foreign Trade (MDIC), with 42% of the total, the Ministry of National Integration (MI), with 39%, the Ministry of Environment (MMA), with 17%, the Ministry of Science and Technology (MCTI), with 2%, and the Ministry of Agriculture (MAPA), with 0.1% (see Table 62).

Table 62 – Forestry-Related Governmental Investments in Brazil

Organization	Investment (USD Million per year)	Share
MDIC	161.6	41.8%
MI	147.9	38.2%
MMA	68.7	17.8%
MCTI	8.3	2.1%
MAPA	0.3	0.1%
Total	**386.8**	**100.0%**

Source: ABRAF (2011); ANA (2012c,d); Governo do Piauí (2011); IBAMA (2012); ICMBIO (2012); IPEA (2006); MI (2010); MMA (2011, 2012); SFB (2011a); STCP (2012), adapted by the Consultant

- **Ministry of Agriculture of Brazil (MAPA)**

The Ministry of Agriculture of Brazil (MAPA) is responsible for the public policies to stimulate the agriculture, and to regulate the standardization of the services related to the agricultural sector. It includes small, medium and large farmers, and the activities necessary to the proper supply of goods and services to agriculture, agricultural production, processing, manufacturing and distribution of products to end consumers (MAPA, 2011).

MAPA is currently developing the Low Carbon Agriculture Programme (*Agricultura de Baixo Carbono* - ABC Program), created in 2010 to provide incentives and resources for farmers to adopt sustainable agricultural techniques, including mitigation and reduction of GHG (Greenhouse Gases) emissions, including carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O). The idea behind is that agricultural production and livestock guarantee more income to producers, more food for the population, and increase environmental protection (MAPA, 2012).

The main activities include: (i) Direct planting; (ii) Restoration of degraded areas; (iii) Integrated crop-livestock-forest systems;(iv) Commercial forests planting; (v) Biological nitrogen fixation; and, (vi) Animal waste treatment.The ABC Program provided for 2011/2012 a total of USD 1.8 billion as resources to encourage technological processes that neutralize or minimize GHG emissions in rural areas. Farmers and cooperatives are eligible for a maximum funding limit USD 571,430 at an annual interest rates of 5.5%. The deadline for payment is from 5 to 15 years, depending on the project (MAPA, 2012). The credit line for forests available within this program is the PROPFLORA, under BNDES.

- *Brazilian Company of Agricultural Research (EMBRAPA)*

The Brazilian Company of Agricultural Research (EMBRAPA) was established in 1973 under the MAPA. EMBRAPA coordinates the National Agricultural Research System, which includes most public and private entities involved in agricultural research in Brazil. It carries out several

international cooperation projects to improve technical knowledge and scientific activities, and to share knowledge and technology with other countries (EMBRAPA, 2008).

The EMBRAPA Florestas is the forestry unit of EMBRAPA. Through its R&D activities, it has developed a significant number of technologies that are available to the forest sector. These new technologies allowed for better production efficiency, reducing production costs, increasing the supply of forest products, while preserving the environment. To accomplish its work and contribute to the development of sustainable forestry, EMBRAPA Florestas works in collaboration with universities, research institutions, commercial companies, NGOs, governmental institutions, international organizations, producers and their associations and cooperatives, among other important partners (EMBRAPA, 2012).

- **Ministry of Science, Technology and Innovation of Brazil (MCTI)**

The Ministry of Science, Technology and Innovation of Brazil(MCTI) was createdin 1985. The MCTIcoversthe following areas: (i) National policy forscientific research, technologyand innovation; (ii) Planning, coordinating, supervisingand controlling scienceand technology related activities; (iii) Policydevelopment ofinformation technology and automation; (iv) National policy onbiosecurity (MCTI, 2008).

- *National Council for Scientific and Technological Development of Brazil (CNPQ)*

The National Council for Scientific and Technological Development of Brazil (CNPQ) is an agency under the MCTI. It aims at promoting scientific and technological research and the training of human resources for research in the country (CNPQ, 2011). In 2010, the CNPQ supported 142 research projects in the area of forest resources and forest engineering, with an amount of USD 4.2 million invested in the country. CNPq also invested in 2010 a total of USD 4.1 million in fostering forestry research. The main lines of research were the conservation of nature (33%), forestry (24%), technology and utilization of forest products (17%) (SFB, 2011b).

- *Financing Agency for Studies and Projects of Brazil (FINEP)*

The Financing Agency for Studies and Projects of Brazil (FINEP) is a public institution under the Brazilian Ministry of Science and Technology (MCTI), established in 1967, with the purpose of financing post-graduate programs in Brazilian universities. Its objective was expanded over time, following the societal needs. Currently, it aims to promoting the economic and social development of Brazil through the public support of science, technology and innovation in public and private companies, universities, and technologic institutes (FINEP, 2012b).FINEP carried out loans totalling USD 863 million in 2010 (FINEP, 2012a). FINEP does not have financing line directed to forestry; however, forestry-related issues are financed through sectors such as energy, agriculture, biotechnology and Amazonia.

- **Ministry of Development, Industry and Foreign Trade of Brazil (MDIC)**

The Ministryof Development, Industryand Foreign Trade of Brazil (MDIC),established in 1999, deals with the following subjects: (i) Policy development ofindustry, commerceand services; (ii) Intellectual property andtechnology transfer; (iii) Metrology, standardization andindustrial quality; (iv) Foreign trade policies; (v) Regulation andimplementation of foreign trade programs andactivities; (vi) Application oftrade defense mechanisms; (vii) Participationin international trade negotiations; (vii) Formulation ofpolicy support tomicro andsmall business (MDIC, 2012).

- *Bank of Social and Economic Development of Brazil (BNDES)*

The Bank of Social and Economic Development of Brazil (BNDES) was established in 1952. It is a public financial institution belonging to the MDIC. It is the main national financing institution for the execution of long-term investments for all economic sectors of Brazil, including the social, regional and environmental dimensions. The organization is also important in the national development strategy (BNDES, 2010).

Since its inception, the BNDES has played a fundamental role in stimulating the expansion of industry and infrastructure in the country. Its operations have evolved according to the Brazilian socio-economic challenges, and now they include support for exports, technological innovation, sustainable socio-environmental development and the modernization of public administration. BNDES offers several financial support mechanisms to Brazilian public and private companies of all sizes, enabling investments in all economic sectors (BNDES, 2012e).

In 2010, its disbursements totalled USD 94 billion, up 23% from the USD 77 billion of 2009 (BNDES, 2010). Along the last decades the BNDES has been important in financing forest-related projects in Brazil, and for the development of the forest industry. Between 2006 and 2012, BNDES invested a total of USD 901 million directly to forestry-related projects, equivalent to USD 162 million per year, where its financing line called BNDES Florestal represented 32% of this total. A summary of the forestry-related projects financed by BNDES in the period is presented in Table 63.

Table 63 –Forestry-Related Investments by BNDES in Brazil (2006-2012)

Project Title	Period		Investment (USD Million)		Share
	From	To	Total	Year	
BNDES Florestal	2006	2010	286.2	57.2	31.7%
Vale Florestar	2006	2010	218.4	43.7	24.2%
PROPFLORA	2005	2010	186.0	31.0	20.6%
MODERAGRO	2010	2020	138.7	12.6	15.4%
Amata	2011	2015	40.3	8.1	4.5%
PRONAF Florestal	2007	2010	21.0	5.2	2.3%
Mata Atlântica	2009	2011	11.2	3.7	1.2%
TOTAL			**901.7**	**161.6**	**100.0%**

Source: BNDES (2010, 2012f),adapted by the Consultant.

Details of some BNDES forestry related financing initiatives are presented below. The Bank is a quite important element in managing funds supporting the implementation of the national forest sector development strategy and the national environment policy.

Amata

In December 2010, BNDES became a shareholder of the Amata, a forest company specialized in the production of certified products from sustainable management of natural forests and plantations. The total investment until 2015 will be USD 40 million. Amata focuses its activities in the Amazon region, where it already has a public concession to sustainably manage the forest located in the National Forest of Jamari, State of Rondonia, Brazil.

With the investment in Amata, BNDES extended its activities to the sequestration of greenhouse gases, complementing the on-going activities within the Amazon Fund, managed by the BNDES. The operation contributes to sustainable management of natural forests, and additionally has a positive impact over the biodiversity conservation in the Amazon, preserves and gives value to the natural forest, creating a source of wealth and opportunity, especially for forest dependent populations living in these regions. The operation of capitalization involved, in addition to BNDES, holding 13% stake in the company, three other investors, including two private Brazilian equity funds and the German fund Aquila (BNDES, 2010).

Amazon Fund

The Amazon Fund aims at raising donations for non-reimbursable investments in efforts to prevent, monitor and combat deforestation, as well as to promote preservation and sustainable use of forests in the Amazon. The Fund is managed by BNDES, which also helps raise funds,

facilitates contracts, monitors and supports projects. It aims to pay for effective reductions of carbon emissions from deforestation.

The funds that make up the Amazon Fund's assets come from donations and net return from cash investments. The Amazon Fund supports the following areas: (i) Management of public forests and protected areas; (ii) Environmental control, monitoring and inspection; (iii) Sustainable forest management; (iv) Economic activities created with sustainable use of forests; (v) Ecological and economic zoning, territorial arrangement and agricultural regulation; (vi) Preservation and sustainable use of biodiversity; and (vii) Recovery of deforested areas. In addition, the Amazon Fund may support the development of systems to monitor and control deforestation in other Brazilian biomes and in biomes of other tropical countries (Amazon Fund, 2012b). The Amazon Fund already counts with USD 397 million. The Norwegian Agency for Development Cooperation (NORAD) is the largest donor, with 97% of the total (see Table 64).

Table 64 – Amazon Fund Donors

Donator	USD Million				Share
	2009	2010	2011	Total	
NORAD	107	134	125	**366**	**92%**
KFW	--	27	--	**27**	**7%**
PETROBRAS	--	--	4	**4**	**1%**
Total	**107**	**161**	**129**	**397**	**100%**

Source: Amazon Fund (2012b), adapted by the Consultant.

Brazil Sustainability Fund

The Brazil Sustainability *(Brasil Sustentabilidade*) is a BNDES fund that focuses on projects under the Clean Development Mechanism (CDM), with the potential to generate Certified Emission Reductions (CERs). In 2012 the committed capital of fund was USD 234,286, which counts with 49% of BNDES participation. The fund managers are the Latour Capital and the BRZ Investimentos (BNDES, 2012a).

Workers Assistance Fund of Brazil (FAT)

The FAT is a special fund under the Brazilian Ministry of Labour and Employment (MTE), managed by BNDES, to finance economic development programs and other activities (BNDES, 2012b). At least 40% of the FAT funds must be allocated to economic development projects. These investments are expected to reach USD 12 billion in 2012, where 64% in infrastructure projects. About 1% (USD 132 million) is related to credit lines for rural activities, specially the National Program for Strengthening Family Farming (PRONAF), which includes forestry (BNDES, 2012c).

BNDES Florestal

The BNDES Florestal supports activities related to reforestation, conservation and forest restoration of degraded or converted areas, and sustainable forest management in natural areas. Eligible items are: (i) Reforestation ventures, tree farming and sustainable forestry; (ii) Acquisition of national machinery and implements accredited with BNDES; (iii) Technical assistance and audit, certification, monitoring and training; (iv) Seeds, seedlings and nurseries; (v) Running and maintaining the forest culture. Beneficiaries are: (a) Companies with headquarters and administration in the country, with domestic or foreign control; (b) Individual entrepreneurs; (c) Associations and foundations; and (d) Public institutions.

Minimum values for funding is USD 0.5 million. Total interest rate is about 6% per year. The Payment period is up to 180 months, depending on the item funded. Funding agency is BNDES or an accredited financial institution (ABRAF, 2011). Total loans from this credit line between 2006 and 2010 totalled USD 286 million, equivalent to USD 57 million per year (BNDES, 2010).

Atlantic Forest Initiative

The Atlantic Forest initiative provides financial support through grants to forest landscape restoration projects in the Atlantic Forest biome, one of the most biodiverse, rich and threatened in Brazil. In 2009, BNDES approved grants for the projects regarding the Project 1st phase, which totalled USD 11.2 million for the institutions. Information on the financed projects is presented in Table 65.

Table 65 - BNDES Atlantic Forest Initiative Investments

Institution	Project Name	Investment (USD Million)	Share
Instituto BioAtlântica (IBIO)	Forest restoration of Atlantic Rain Forest in the Pedra Branca State Park, municipality of Rio de Janeiro (RJ).	3.5	31%
Instituto de Pesquisas Ecológicas (IPÊ)	Forest Restoration of Atlantic Rain Forest of Riparian Areas of Permanent Preservation on the Banks of Affluent of the Paranapanema River.	2.1	19%
Natureza Bela	Forest Restoration of Atlantic Rain Forest in the Monte Pascoal National Park, Nature Conservation Unit in Porto Seguro (BA).	1.8	16%
Instituto Terra	Forest Restoration of Atlantic Rain Forest of Riparian Forest at Fazenda Bulcão in Aimorés (MG), and in Itapina Ecological Reserve, a Nature Conservation Unit located in Colatina (ES).	1.4	13%
Fiotec/Fiocruz	Reforestation of Atlantic Rain Forest Areas in the Atlantic Forest Campus Fiocruz (CFMA) and Pedra Branca State Park, Municipality of Rio de Janeiro (RJ).	1.4	13%
The Nature Conservancy (TNC)	Reforestation with Native Species in Riparian Areas of Permanent Preservation and Nature Conservation Units.	1.0	9%
TOTAL		**11.2**	**100%**

Source: BNDES (2012f), adapted by the Consultant.

Modernization Program for Agriculture and Natural Resources Conservation of Brazil (MODERAGRO)

The Modernization Program for Agriculture and Natural Resources Conservation of Brazil (MODERAGRO) from the BNDES is designed to finance several agricultural sectors, including fruit cultures. Financing can be performed by farmers (individuals or corporations) and their cooperatives, including lending to their members. The funding limit may reach USD 1 million per loan, with an interest rate of 6.75% per year (BNDES, 2012d).

The MODERAGRO financed a total of USD 139 million between 2000 and 2010, corresponding to USD 12.6 million per year, for fruit cultures, especially citrus, mango and cashew nut trees (MAPA, 2011). The programme offers a grace period of three years, and the deadline for the settlement is 10 years (BNDES, 2012d).

Brazilian National Program for Strengthening Family Agriculture (PRONAF)

The Brazilian National Program for Strengthening Family Agriculture (PRONAF) finances individual or collective projects that may generate income to family farms. PRONAF has the lowest interest rates of all rural financing lines in Brazil (MDA, 2012). One of the several

financing lines inside this programme is the PRONAF Florestal, targeting sustainable land management, which aims at: (i) Encouraging forestry practices and the development of agro forestry systems; (ii) Supporting forest management practices; and, (iii) Providing technical support. Eligible items are: a) Investments in forestry and agro-forestry systems; b) Ecologically sustainable exploitation, including costs with the venture's deployment and maintenance. It may fund up to 100% of the venture, with an interest rate of 3% per year. The payment period is up to 12 years.Between 2007 and 2010, it lent a total of USD 21 million, equivalent to an average of USD 5.2 million per year. This BNDES line is allocated through BB, BASA, BNB, and private banks of the Brazilian National Rural Credit System (ABRAF, 2011).

Commercial Planted Forests Program of Brazil (PROPFLORA)

The Commercial Planted Forests Program of Brazil (PROPFLORA) is a credit line aiming to preserve remaining natural forests and ecosystems and to reduce the deficit of planted forests used as raw material sources, generating employment and income in rural areas. PROPFLORA supports: (i) Maintenance of forests for industrial uses, including biofuel production and agro forestry consortiums; and, (ii) Restoration and maintenance of permanent preservation and legal reserve areas.

Eligible Items are: a) Fixed and semi-fixed investments; b) Funding related to the project, limited to 35% of the investment value; c) Forest nurseries; and d) Restoration of preservation areas and legal reserves. Beneficiaries are farmers (individuals or corporations) and their associations and cooperatives. The funding limit is up to USD 171,430. The interest rate is 6.75% per year. The payment period is up to 12 years, according to the item financed. The funding agency is the Bank of Brazil or other BNDES accredited financial institution. Between 2005 and 2010, it lent a total of USD 186 million, corresponding to an average of USD 31 million per year (ABRAF, 2011).

Vale Florestar

The Vale Florestar was formed in 2009 by the Vale Company, BNDES, the *Caixa Econômica Federal* Workers' Pension Fund (FUNCEF) and the Petrobras Workers' Pension Fund (PETROS), as one of the largest reforestation funds in Brazil. The fund will invest a total of USD 345 million up to 2014. BNDES alone will provide USD 218 million (BNDES, 2010).

The financial structuring of the fund is carried out by the Global Equity Resources Administrator, which is also responsible for identifying and evaluating new investment opportunities. In 2007, Vale created the Vale Florestar project to promote reforestation of degraded areas using both native and introduced species, contributing to local social and economic development. Since it began operating, it has invested around USD 131 million, planting more than 24.5 million trees on 41 leased farms covering an area of approximately 70,000 hectares. Vale Florestar's operations currently provide around 1,500 direct jobs.

This project's assets will be transferred to the Vale Florestar, which will focus on developing forest businesses in Brazil. Vale will support the fund primarily through its investment in Vale Florestar, while the other partners will provide capital to expand the project. The goal is to reach a total forest area of 450,000 hectares by 2022, where 150,000 ha of new commercial plantations and 300,000 ha of protected and restored natural forests.

When achieving maturity, more than 4,000 direct jobs will be generated. The establishment of the fund enables long-term investment resources to be channelled into expanding forestry projects. It is expected that this model will attract forestry-related industries to the local area, generating a multiplier effect. It is also intended to disseminate sustainable forestry practices in the region, helping to reduce pressure on native forests (VALE, 2009).

- **Ministry of Finances of Brazil (MF)**

The Ministry of Finances of Brazil (MF) has jurisdiction over the following subjects: (i) Currency, financial credit, financial institutions, capitalization, savings, private insurance and private pension; (ii) Policy, administration and supervision of federal tax revenues; (iii) social security funding plan; (iv) Financial management and public accounting; (v) Public debt management ; (vi) Economic and financial negotiations with governments and multilateral organizations; (vii) General and public tariffs; (viii) Foreign trade supervision and control ; (ix) Monitoring of economic conditions; and (x) Institutional reforms for improving the institutions that regulate the Brazilian economy (MF, 2011).

- *Bank of the Brazilian Amazon (BASA)*

The Bank of the Brazilian Amazon (BASA) is a federal public financial institution linked to the MF. Its mission is to promote the development of the Brazilian Amazon region, accounting for more than 60% of the long-term loans in the region. BASA is linked to various agencies related to the federal, state and local governments, through partnerships with several public institutions, private companies, universities, non-governmental organizations (NGOs), associations of farmers and other rural groups. BASA covers the entire Amazon region, which represents about 60% of the Brazil's total area, and has financed several forestry projects. BASA also operates for the region the funds from FDA (Amazon Development Fund), FAT (Workers Assistance Fund) and BNDES, important funds financing development and social programs in Brazil (BASA, 2007). More details on these funds are presented later.

- *Bank of Brazil (BB)*

The Bank of Brazil (BB), established in 1808, is a federal public financial institution under the MF. Its mission is to promote the sustainable development in Brazil (BB, 2012b). The BB catalyses the financial resources available through the Brazilian Development Bank (BNDES), including its credit lines to support forest projects such as BB Florestal, PROPFLORA and PRONAF. These projects support forest investments, mainly plantations, in small and medium properties. BB also manages funds from the FCO, a constitutional fund that support the forest financing line called Pronatureza (BB, 2012a). More details on the FCO are presented later.

- *Bank of Northeast Brazil (BNB)*

The Bank of Northeast Brazil (BNB) is a public federal financial institution belonging to the MF. Its mission is to act as a catalyst for the sustainable development of the Northeast region of Brazil. It allots the resources from the Constitutional Fund for Financing the Northeast (FNE), including its forestry line called the FNE Verde (Green FNE), and also other investment programs such as the Development Fund of Northeast (FDNE) and BNDES. Along the last years BNB has played an important role in financing industrial forest plantations in several states of the Northeast region of Brazil (BNB, 2012).

- **Ministry of National Integration of Brazil (MI)**

The Ministry of National Integration of Brazil (MI) is responsible for formulating plans and programs for regional development and establishing guidelines for the application of financial resources and implementation of funding programs (MI, 2012a). The forestry-related programs under the MI averaged almost USD 148 million, as shown in Table 66.

Table 66 – Forestry-Related Investments by MI (2004-2015)

Project Title	Investment (USD Million per year)	Share
FNE Verde	75.7	51.1%
FNO Biodiversidade	43.0	29.1%

FCO Pronatureza	23.3	15.8%
CODEVASF	5.9	4.0%
Total	**147.9**	**100.0%**

Source: Government of Piauí (2011); IPEA (2006); MI (2010); STCP (2012)

- *Brazilian Constitutional Financing Funds*

The 1988 Brazilian Federal Constitution sets aside 3% of the proceeds from the tax collection on income and earnings of any nature and industrial products for the use in funding programs to the productive sectors of the North, Northeast and West-Central regions of Brazil. By designating a portion of tax revenues to the country deprived regions, the Brazilian government created the Constitutional Funds for Financing the North (FNO), the Northeast (FNE) and the West-Central (FCO) regions, to promote economic and social development to those regions. In line with the mission of the Constitutional Funds and the guidelines for the development of the regions beneficiaries, funding programs seek efficiency in resource allocation to increase the productivity of enterprises, generate new jobs, raise tax revenues and improve income distribution.

From its inception in 1989, the Constitutional Financing Funds, administered by the MI, received funding of about USD 33.4 billion from the federal government, which enabled the implementation of 3,648 projects until the end of 2011, with financing totalling USD 22.5 billion. The funding through the Constitutional Funds enabled the improvement of life quality in those regions, and contributed to generate jobs, increase regional production, increase tax collection, and reduce the rural exodus (MI, 2012b).

The three public banks responsible for lending the constitutional fund resources are the BB (for the FCO), BASA (for the FNO) and BNB (for the FNE). Analysing their operations, in recent years a situation of over supply has dominated, although this situation is changing (IPEA, 2006). For instance, the FNE Verde (FNE Green), a specific credit line for forestry, counted with enough financial supply, but most of the funds were not loaned due to the lack of preparation of the BNB staff to analyse credit applications regarding forestry. More details of the constitutional funds are presented below.

Constitutional Financing Fund for the Centre-West of Brazil (FCO)

The Constitutional Financing Fund for the Centre-West of Brazil (FCO) covers the states of Mato Grosso, Mato Grosso do Sul, Goiás, and Distrito Federal. The forestry-related credit line from FCO is called the Pronatureza. It encourages projects that address the recovery, conservation and preservation of natural resources, and support the implementation of forestry projects that focus on job and income generation.

Eligible items are: (i) Establishment of agro-forestry systems; (ii) Forestation and reforestation, for energy and timber purposes; (iii) Utilization of regional nurseries to supply seedlings; (iv) Establishment of permanent crops of tree species native to the Cerrado biome; (v) Implementation of low impact sustainable forest management. Beneficiaries are farmers, production cooperatives and associations dedicated to productive activities in the rural sector (ABRAF, 2011). Between 2006 and 2008, the Pronatureza lent more than USD 70 million for forestry-related projects, equivalent to an average of USD 23 million per year (MI, 2009).

Constitutional Financing Fund for the Northeast of Brazil (FNE)

The Constitutional Financing Fund for the Northeast of Brazil (FNE) covers the states of Alagoas, Bahia, Ceará, Maranhão, Paraíba, Piauí, Pernambuco, Rio Grande do Norte, and Sergipe. The forestry-related credit line from FNE is called the FNE Verde (Green). It promotes the development of enterprises and economic activities that encourage environmental preservation and conservation.

The eligible items are (i) Forest Management; (ii) Reforestation; (iii) Alternative energy generation; (iv) Environmental improvements in production processes. Beneficiaries are farmers, rural, industrial and commercial companies, and service providers. Interest rates vary from 5 to 10% per year. Loans must be paid in up to 12 years, with a grace period of up to 8 years (ABRAF, 2011).

Between 2006 and 2011, the FNE Verde line lent more than USD 454 million for forestry-related projects, corresponding to an average of USD 76 million per year(MI, 2009).

Constitutional Financing Fund for the North of Brazil (FNO)

The Constitutional Financing Fund for the North of Brazil (FNO) covers the states of Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, and Tocantins. The forestry-related credit line from FNO is called the FNO-Biodiversity. The objective is to contribute to maintain and restore biodiversity in the Amazon, through funding of projects related to sustainable use of natural resources, adoption of good management practices, and restoration of degraded legal reserve areas in rural properties. Eligible items are: (i) Reforestation; (ii) Agroforestry Systems; (iii) Activities under sustainable production systems. Beneficiaries are farmers and traditional peoples and communities of the Amazon (ABRAF, 2011). FNO-Biodiversity lent USD 43 million only in 2009 (MI, 2010).

- *Development Company of the São Francisco and Parnaiba Valleys (CODEVASF)*

The Development Company of the São Francisco and Parnaiba Valleys (CODEVASF) is part of MI, and has been involved in the implementation of forest development projects, basically plantations for wood and non-wood production in the State of Piaui and other Brazilian states (MI, 2012a).

Forest Development Program of Piauí (PDFLOR-PI)

The Forest Development Program of Piauí (PDFLOR-PI) is an initiative of CODEVASF in cooperation with the Government of the State of Piauí, and in partnership with and the Ministry of Environment. The program aims to develop the forest sector of Piauí, by establishing forest plantations and forest-based industries, contributing to the sustainable development of the state (Government of Piauí, 2011). With average annual public investments of only USD 0.38 million, total projected private investments over the next 5 years are over USD 1.5 billion, including forest plantations and industrial developments.

Cashew Nut Tree Plantations

The CODEVASF, in partnership with the Government of Piauí, invested nearly USD 8.6 million between 2006 and 2011 (USD 1.4 million per year) in strengthening the cashew nut tree plantations in the state. The main cashew plantation area in Piaui is located in the region of Picos, with about 13,000 hectares of plantations, belonging to more than 20,000 families.

The funds were invested in the production and distribution of almost 73 million cashew tree seedlings of selected materials to the producers. The development of the cashew culture in the region also strengthened the supply chain, attracting private investments in juice production units. These investments added value to the cashew industry. In the past, the producers used to obtain income from the cashew nut trade only, but now the cashew apple is also traded (Government of Piauí, 2011).

- *Superintendence for the Development of the Brazilian Amazon (SUDAM)*

The SUDAMis a Brazilian federal development agency under the MI. Its mission is to promote sustainable development, and increase the competitiveness of the nine Brazilian Amazonian

states, including Acre, Amapá, Amazonas, Maranhão, Mato Grosso, Pará, Rondônia, Roraima, and Tocantins (SUDAM, 2012a).

Between 2007 and 2011, approximately USD 6 billion was invested by SUDAM in more than 1,000 projects. The funds were made available to the productive sector for investments in the establishment, expansion, diversification, modernization, and competitiveness increase of private enterprises in the Amazon, generating economic growth and sustainable development for the region. The main sectors benefited were infrastructure, tourism, agribusiness, timber and food (34%) (SUDAM, 2012c).

SUDAM manages the Amazon Development Fund (FDA), which is operated by the BASA (BASA, 2011). FDA provides financing for the establishment, expansion, modernization and diversification of private enterprises in the Brazilian Amazon. Loans are limited to 60% of total investment and 80% of fixed investment of the project (BASA, 2011). For 2011, FDA resources for investments in all areas totalled USD 586 million (SUDAM, 2009).

SUDAM and the government of the State of Acre signed an agreement aimed at strengthening the craftworks supply chain, based on the use of timber and non-wood forest products (NWFPs) in the Municipality of Porto Acre. The project is receiving USD 320,000from SUDAM. The goal of this project is to provide technology for the private sector regarding wood and NWFPs processing, taking advantage of the Technology Foundation of the State of Acre (FUNTAC) research in developing technological solutions to sustainable use of natural resources.

The project aims to develop innovative techniques for handicraft production among the artisans of the Association of Artisans of Vila do Incra, with the development and delivery of a technological kit for forest products processing. The artisans will develop a portfolio of products with the use of accurate techniques, providing quality products, and expanding businesses opportunities, through the variation of the use of available natural resources (SUDAM, 2012b).

- **Ministry of Environment of Brazil (MMA)**

The Ministry of Environment of Brazil (MMA) aims to promote the adoption of principles and strategies to improve knowledge, protection and restoration of the environment. It includes sustainable use of natural resources, valuation of ecosystem services, and integration of sustainable development in the formulation and implementation of public policies. There are several organizations and funds under MMA, where the sum of average annual investments is USD 69 million (see Table 67).

Table 67 – Forestry-Related Investments by MMA (2006-2011)

Project Title	Investment (USD Million per year)	Share
SFB	23.3	33.8%
ICMBIO	21.0	30.6%
IBAMA	13.0	18.9%
FNMA	5.7	8.4%
ANA	5.7	8.3%
Total	**68.7**	**100.0%**

Source: ANA (2012c,d); IBAMA (2012); ICMBIO (2012); MMA (2011, 2012); SFB (2011a), adapted by the Consultant.

- *National Water Agency of Brazil (ANA)*

The National Water Agency of Brazil (ANA) has a mission to implement and coordinate shared management and integrated water resources management and access to water, promoting its sustainable use (ANA, 2012b).

Charges for Water Use

One of the ANA initiatives is the introduction of charges for water use. It is one of the instruments of water management established by the Law 9,433/1997, which aims to encourage the sustainable use of water and generate financial resources for investments in the restoration and preservation of water resources in the watershed where the water was extracted. The fee collection is fixed as a pact between water users, public authorities and the civil society, in accordance with the River Basin Committee, with technical support from ANA (ANA, 2012a).

The Brazilian National Water Law 9,433/1997 sets out that the rights of using the following water resources are subject to fees: (i) In diversions, catchment of water from water course for final consumption, including public supply, or as input of production processes; and (ii) Extraction of water from an underground aquifer for final consumption or input into the production process.

The federal government has the jurisdiction to charge the use rights of water resources, which it may also be delegated to state government. The amounts of the fees collected should be invested primarily in the watershed in which they were generated and used. The main purposes are for financing studies, programs, projects and works in the watershed. These collected fees may be applied as grants for projects and works that change, in a positive way, the quality, quantity and flow of the water bodies (Governo do Brasil, 1997). It includes natural forests conservation.

The levied fees are calculated based on the mechanisms and values proposed by the River Basin Committee and approved by the National Council on Water Resources (CNRH). As the collection of fees already exists in some States, it is noteworthy that in rivers under state domain, the charge is carried out by State Water Agencies. ANA only charge fees on rivers under federal jurisdiction, or rivers that flow through more than one state (ANA, 2012a).

Water Producer Programme

The Water Producer Programme developed by ANA focuses on the Payment for Environmental Services (PES) aimed at protecting water in Brazil. To this end, the program supports, guides and certifies projects that aim to reduce erosion and siltation of water sources in rural areas, providing quality improvement, expansion and regulation of water supply watersheds of strategic importance for the country.

The program provides technical and financial support to the implementation of actions to conserve water and soil, including reforestation of legal reserves and permanent protection areas (ANA, 2012c). The granting of incentives occurs only after partial or total implementation of measures regarding previously committed conservation practices. The payable amounts are calculated in accordance with the results obtained through water quality analysis, including reduction of erosion and sedimentation, reducing diffuse pollution and increased infiltration of water (ANA, 2012c). The agreement lasts for ten years. Investments totalled USD 22.9 million in 2011, where USD 5.7 million was related to forestry (ANA, 2011).

The creation of mechanisms to financially compensate farmers for preservation activities is relatively new in Brazil, and began with the Water Producer Programme. The model proposed by ANA aims to provide farmers a pre-established amount of money for each bidder in exchange for areas to be reforested, thereby obtaining environmental gains. However, most proposed models do not consider conservation practices, and do not carry out an economic analysis of the area to be used to implement the program (UFLA, 2009).

- *Brazilian National Environmental Fund (FNMA)*

MMA currently manages the Brazilian National Environmental Fund (FNMA), established in 1989, to finance the implementation of the National Environmental Policy (PNMA). Since then, it has supported more than 1,400 environmental projects, having invested USD 132 million, equivalent to USD 5.7 million per year. FNMA supports projects and initiatives all over Brazil,

whichcontribute to conservation and sustainable use of natural resources, and to the enhancement of population's quality of life (MMA, 2011).

- *Brazilian Institute of Environment and Renewable Natural Resources (IBAMA)*

The Brazilian Institute of Environment and Renewable Natural Resources (IBAMA) is under the MMA with the following main duties: (i) Supervise the implementation of the Brazilian environmental laws; (ii) Environmental licensing and control; (iii) Authorize the use of natural resources. Between 1999 and 2010, IBAMA invested an average USD 6.6 million per year in forestry-related activities. Among them the largest program is the PREVFOGO (Prevention and Combating Wildfires) (IBAMA, 2012).

- *Chico Mendes Institute for Biodiversity Conservation of Brazil (ICMBIO)*

The Chico Mendes Institute for Biodiversity Conservation of Brazil (ICMBIO) was established in 2007, under the MMA. Its mission is to coordinate the National System of Protected Areas (SNUC) and to propose, implement, manage, protect, enforce and monitor federal protected areas. In 2010, the total budget amounted to USD 21 million, covering concessions, leasing, authorizations and entrance ticket sales (ICMBIO, 2011).

- *Brazilian Forest Service (SFB)*

TheBrazilian Forest Service(SFB), under the MMA, has a missionto reconcile use and conservationof forests, valuing themfor the benefit ofpresent and future generations, through the management of public forests, knowledge building, capacity building, and provision ofspecialized services. Between 2009 and 2010, its average budget was USD 23.3 million per year (SFB, 2011a).

5.2.4 – Chile

In Chile, the forestry-related investments averaged USD 39 million per year between 2002 and 2010, and are distributed in two ministries: The Ministry of Economy, Development and Tourism of Chile (MEFT) with 33% of the total, and the Ministry of Agriculture of Chile (MINAGRI), with 67% (see Table 68).

Table 68 – Forestry-Related Governmental Investments in Chile (2002-2010)

Organization	Investment (USD Million per year)	Share
MEFT	13	33%
MINAGRI	26	67%
Total	**39**	**100%**

Source: CONAF (2012c); INFOR (2010), adapted by the Consultant.

- **Ministry of Finances of Chile (MH)**

The mission of the Ministry of Finances of Chile (MH) is to maximize long-term economic growth potential and to promote a more efficient use of the nation's productive resources to achieve sustainable growth and a better quality of life for all Chileans, especially for those most vulnerable (MH, 2012).

- *Federal Bank of Chile*

The Federal Bank of Chile (*Banco Estado*) has a mission to help any Chilean to undertake and develop business opportunities. The Bank delivers: (i) Competitive quality service; (ii) Commitment to the promotion of entrepreneurship and financial inclusion; (iii) Support and

commitment to implement public policies; and, (iv) Contributes to a greater competition in the financial system (MINREL, 2012).

- **Ministry of Economy, Development and Tourism of Chile (MEFT)**

The Ministry of Economy, Development and Tourism of Chile (MEFT) has a mission to design and monitortheimplementation of public policiesthat affectcompetitiveness.Its mainlines of action are related to the designand promotion of the EntrepreneurshipandInnovation Policy. It is also responsible for the digital strategy, tourism, andfishingRegulation (MEFT, 2011).

- *Chilean National Council of Innovation for Competitiveness (CNIC)*

The Chilean National Council of Innovation for Competitiveness (CNIC), under the MEFT, is a public-private agency that acts as a permanent advisor to the presidency of Chile in matters of public policy for innovation and competitiveness, including the development of science and technology, capacity building and innovative entrepreneurship, and acts as a catalyst for initiatives in these areas (MINREL, 2012).

- *Forest Foment Corporation of Chile (CORFO)*

In Chile, forestry bonds are issued, backed by a guarantee from the Forest Foment Corporation of Chile (CORFO), which is under the MEFT, and the private sector. These bonds are purchased by institutional investors such as pension funds, banks and insurance agencies. The funds raised from the bond sales are used to purchase immature planted forests (15 - 20 years old), pay for forest management and reforestation costs. In return, bond holders and forest owners share the profits from harvesting operations in these forests (FAO, 2007a). Between 2005 and 2012, average investments from CORFO have been an average USD 13 million per year.

- *Chilean Development Network (Red de Fomento)*

The MEFT administers the Chilean Development Network, which offers entrepreneurs a series of tools and services to bring their ideas into practice and succeed in their businesses. This Development Network, whose funds and financings can be applied for the development of the forest sector in Chile, is composed of the following organizations and agencies: (i) Banco Estado; (ii) Chile Califica; (iii) National Committee for Scientific and Technological Research (CONICYT); iv) National Committee of Risks (CNR); (v) Clean Production Council (CPL); (vi) Indigenous Development Corporation (CONADI); (vi) Forest Foment Corporation (CORFO); (viii) National Forestry Corporation (CONAF); (x) Foundation for Agrarian Innovation (FIA); (xi) Agricultural Development Institute (INDAP); (xiii) Agricultural Research Institute (INIA); (xiv); Chilean Exports Promotion Bureau (PROCHILE); (xv) Agriculture and Livestock Service (SAG); (xvi) Technical Cooperation Service (SERCOTEC); (xvii) National Service for Training and Employment (SENCE); (xviii) National Service for Women; (xix) National Fishery Service; (xx) National Tourism Service (SERNATUR); (xx) Secretariat of Mining; and (xxi) Secretariat of Fisheries (MINREL, 2012).

- *Fund for the Promotion of Scientific and Technological Development of Chile (FONDEF)*

The Fund for the Promotion of Scientific and Technological Development of Chile (FONDEF) was established in 1991 as a direct government initiative to improve the level of R&D in the country and it is administered by the National Committee for Scientific and Technological Research of Chile (CONICYT). It aims at strengthening the scientific and technological capacities of the Chilean universities and technological institutions, to increase the competitiveness of the national economy, and to contribute to improve the quality of life of all Chilean people. Its two main projects are the “Towards the Development of Chestnut Forests in Chile”, and the “Innovative Tools for Business Performance Competitiveness of Small and Medium-Sized Forest Producers in Chile” (INFOR, 2010).

- **Ministry of Agriculture of Chile (MINAGRI)**

The Ministry of Agriculture of Chile (MINAGRI), established in 1960, is responsible for promoting, guiding and coordinating the country's forestry and agricultural activities. It has a mission to achieve the increase of domestic production, conservation, protection, enhancement of renewable natural resources and improvement of the nutritional status of people (MINAGRI, 2011).

- *Chilean National Forestry Corporation (CONAF)*

The Chilean National Forestry Corporation (CONAF) is a public organization under MINAGRI. CONAF aims at contributing to the conservation, management and increase of sustainable use of forest resources utilization in Chile (CONAF, 2012a). The Program of Forest Bonus, established in 1974 through the Decree 701/1974 and operated by CONAF, focused on sustainablesupply of raw material to the country´s industrial growth.

Thepurpose of Act 701,operatedbetween 1974and 1995,was to promoteforestry development inChile throughtwo components: i) Subsidyfor afforestationandsand dune stabilizationin suitable soilsfor forestry (the objective was to providea subsidy equivalentto 75% of the net costsof establishmentconsidering the soil characteristics suitablefor forestry); and ii) Subsidytaxfor activitiesofadministration and management offorestsplantedon suitable landfor forestry (the objective wassubsidizingthe activities of forest management, pruning and thinning)(DIPRES, 2006).

Among the forestry-related projects carried out under CONAF, which totalled an averaged USD 26 million per year between 2006 and 2011, the Program of Forest Bonus is the most important, with 69% of the total (Table 69).

Table 69 – Forestry-Related projects under CONAF (2006-2010)

Project Title	Investment (USD Million per year)	Share
Program of Forest Bonus	18	69%
Fund of Natural Forest Conservation, Recovery and Sustainable Management	6	23%
Research Fund	2	8%
Total	**26**	**100%**

Source: CONAF (2012c); INFOR (2010), adapted by the Consultant.

In 2005, public and private organizations of Chile signed a national cooperation agreement for sustainable use of fuelwood, for the promotion of fuelwood production, and to the establishment of the corresponding market in compliance with the environmental and fiscal legislation. The final purpose is to support a national firewood certification system, encouraging the use of certified fuelwood.

The agreement was signed by the Chilean National Commission for the Environment (CONAMA), the CONAF, the Chilean National Consumer Service (SERNAC), the German Socio-technical Cooperation Service (DED), the Social Action Department of Temuco Diocese (DAS), the Forest Engineers' Organization for Indigenous Forests of Chile (AIFBN) and the Ñuble Indigenous Forest Union. This voluntary initiative led in June 2006 to the establishment of a National Fuelwood Certification Council (FAO, 2009b).

Between 2006 and 2010, CONAF carried out loans under the Programme of Forest Bonus which totalled more than USD 90 million, or an average of USD 18 million per year (see Table 70). Since 1974, this policy helped in the reforestation of 1.2 million hectares (MINREL, 2012).

Table 70 – Forestry-Related Investments by CONAF under the Forest Bonus Program (2006-2010)

Year	Value (USD Million)		
	Individuals	Companies	TOTAL
2006	0.1	11.7	**11.8**
2007	0.9	9.8	**10.7**
2008	12.9	2.6	**15.5**
2009	20.2	10.7	**30.9**
2010	14.4	6.8	**21.2**
TOTAL	**48.5**	**41.7**	**90.2**

Source: CONAF (2012c), adapted by the Consultant.

The Forest Bonus Program presented some problems in terms of program´s target beneficiaries and implementation. Large companies benefited using a significant amount of this subsidy. The Program is highly concentrated in a few regions that already had a developed forest sector, accumulating 70% of the total planted area and 66% of the total bonus value. About 85% of the total area is concentrated in two genera, Pine and Eucalypt, and 50% of the forest assets are concentrated in 20 municipalities (INFOR, 2010).

The Bonus program should review its target focus segments, refine administrative processes, and limit plantations in soils with high levels of erosion, where the priority should be natural regeneration. In addition, the real costs of afforestation on degraded land and small land, the diversification of species and production models, and decentralization of the program in less favoured regions should be considered. It should streamline and expand the definition of small landowner, limit annual afforestation targets, focus on quality and fund continuous technical assistance. It also should provide a mechanism for the continuation of the program (INFOR, 2010).

The Law Nº 20,283 of 2008 on recovery of native forest and forestry development establishes two financing funds: (i) Research Fund (*Fondo de Investigación*); and, (ii) Fund for Conservation, Recovery and Sustainable Management of Natural Forests (*Fondo de Conservación, Recuperación y Manejo Sustentable del Bosque Nativo*) (MINREL, 2012).

The Research Fund aims to promote and increase knowledge of natural forest ecosystems, their management, preservation, protection, enhancement and recovery. The annual spending is around USD 2 million, which are assigned to research lines defined by the Native Forest Advisory Council, including scientific research on native forest, biodiversity conservation, capacity building and education, technology transfer in rural areas, among others (MINREL, 2012).

The Fund for Conservation, Recovery and Sustainable Management of Natural Forests covers the following activities: (i) Regeneration; recovery and protection of natural forests under preservation; (ii) Silvicultural activities aimed to manage and restore natural forests to obtain timber or non-wood forest products. To date, after 3 years of implementation of this Law, the average resources annually invested by the government were USD 6 million (MINREL, 2012).

- *Foundation for Agrarian Innovation of Chile (FIA)*

The Foundation for Agrarian Innovation of Chile (FIA), under the MINAGRI, aims to promote and develop in the national agro-food sector innovations that strengthen the institutional capacities and entrepreneurship. The purpose is to contribute to increase the competitiveness and social and environmental sustainability, thereby contributing to the generation of income, employment and enhancement of quality of life for the sector (MINREL, 2012).

The FIA provides funding for forestry and agricultural innovation projects through co-financing grant, subsidies for innovation projects, which cover up to 80% of the total project cost with a ceiling of USD 300,000 awarded through a competitive bidding process. This funding is directed

to individual producers, companies of all sizes, associations, foundations or corporations. FIA also has complementary tools for innovation in the agriculture and forestry sector through grant contributions that finance technical assistance, specialized consulting and events to support the development of innovations in agriculture and forestry (MINREL, 2012).

- *Forest Institute of Chile (INFOR)*

The Forest Institute of Chile (INFOR) is a public institution under the MINAGRI. It annually updates information on forest plantation area in Chile, by species, age, and administrative political division. In 2008, the Institute launched the Permanent Program of Forest Plantations Update. The objective is to update information regarding the forest plantation area in the regions of Coquimbo and Aysen (INFOR, 2008).

- *Agricultural Development Institute of Chile (INDAP)*

The Agricultural Development Institute of Chile (INDAP) has a mission to support the development of small farmers andagricultural producersthroughproduction developmentactivitiesaimed atbuilding and strengtheninghuman, financial and productive capital, contributing topoverty alleviationand for the sustainabilityand competitivenessof the Chilean agriculture (INDAP, 2012).

- **Ministry of Education of Chile (MINEDUC)**

The mission of theMinistryof Education of Chile (MINEDUC) is to ensureafair andqualityeducationthat contributeto the people and thecountry's integraland long-lastingdevelopment,through the formulationand implementation of policies, standards and industrial regulations (MINEDUC, 2012).

- *Chilean National Committee for Scientific and Technological Research (CONICYT)*

The Chilean National Committee for Scientific and Technological Research (CONICYT), under the MINEDUC, was created in 1967 as an advisory body to the Presidency of Chile on scientific research and development. It is guided by two major goals: (i) Promotion of human resources capacity building; and, (ii) Strengthening the scientific and technological base of the country (MINREL, 2012).

- **Ministry of Foreign Affairs of Chile (MINREL)**

The Ministry of Foreign Affairs of Chile (MINREL) is responsible for planning, directing, coordinating, executing and disseminating the country's foreign policy. It is also responsible for coordinating activities of other ministries and public institutions in the areas affecting the foreign policy. In addition, it intervenes in all matters related to definition and demarcation of the country's borders and limits, and issues concerning the country´s border, airspace, and maritime zones (MINREL, 2010).

- *Chilean Exports Promotion Bureau (PROCHILE)*

The Chilean Exports Promotion Bureau (PROCHILE) is an agency under the MINREL. It offers a wide range of services to support Chilean exporters, including information systems, support for the participation in relevant international fairs, and programs specifically designed to develop exporting skills (MINREL, 2012).

5.2.5 – Colombia

In Colombia, the forestry-related investments averaged USD 146 million per year between 1998 and 2022, and are distributed in two ministries: The Ministry of Agriculture of Colombia (MADR), with 94% of the total, and the Ministry of Environment and Sustainable Development of Colombia (MADS), with 6% (see Table 71).

Table 71 – Forestry-Related Governmental Investments in Colombia (1998-2022)

Organization	Investment (USD Million per year)	Share
MADR	137	94%
MADS	9	6%
Total	**146**	**100%**

Source: CONPES (2009); MADS (2012), (M&M, 2011); adapted by the Consultant.

- **Ministry of Agriculture of Colombia (MADR)**

The Ministry of Agriculture of Colombia (MADR) is focused on the formulation, coordination and adoption of policies, plans, programs and projects for the development of the agribusiness, fishing, and rural sectors (MADR, 2007). Table 72 shows that MADR invested an average USD 137 million per year between 2002 and 2014 in forestry-related initiatives. The largest investment is the Action Plan for Commercial Reforestation, 46% of the total value.

Forest development activities of Colombia are implemented by the MADR, responsible for the coordination of forest policies for promotion, development and funding; the National Corporation for Forestry Development (CONIF), responsible for carrying out tasks, such as forestry research related to seedling of native species, and technology transfer related to forestry and agroforestry; the Colombian Agricultural Institute (ICA) develops disease control related to forestry; and the Fund for Agricultural Financing (FINAGRO) manages the Forestry Incentive Certificate (CIF) and credit for the Colombian forest sector (DNP, 2010).

Table 72 – Forestry-Related Investments by MADR (2002-2014)

Project Title	Period		Investment (USD million)		Share
	From	To	Total	Year	
Action Plan for Commercial Reforestation	2011	2014	249.9	62.5	45.6%
Competitive Strategy for Development of the Colombian Oil Palm Sector	2002	2007	366.6	61.1	44.6%
Resource Distribution Incentive for Forest Certification with Commercial Purposes (CIF)	2006	2009	52.1	13.0	9.5%
Banana Producer Project	2009	2009	0.3	0.3	0.2%
Total			**668.9**	**136.9**	**100.0%**

Source: CONPES (2009); (M&M, 2011); adapted by the Consultant.

The Action Plan for Commercial Reforestation is a forestry project that sets out strategic guidelines for the consolidation of forest production chain in the medium and long terms, and establishes a target of 600,000 hectares of commercial plantations and 400,000 hectares for forest restoration and environmental protection, both targets to be accomplished by 2014 (M&M, 2011).

The Forestry Incentive Certificate (CIF) is a monetary contribution that the government carries out to cover part of the establishment and maintenance expenses incurred by forest owners planting new forests for protective and commercial purposes in soils suitable for forestry (DNP, 2010).

The Competitive Strategy for Development of the Colombian Oil Palm Sector is a policy aimed at improving the competitiveness of the oil palm sector. The major objective is to promote the palm oil marketing in the domestic and international markets, considering social and environmental responsibility (CONPES, 2009).

- **Ministry of Environment and Sustainable Development of Colombia (MADS)**

The Ministry of Environment and Sustainable Development of Colombia (MADS) is responsible for sustainable development and the environment in the country. It performs and promotes sustainable development activities through the technical formulation, adoption, regulation and coordination of policies (MADS, 2011).

Between 1998 and 2022, the MADS is investing an average USD 9.4 million per year in forestry-related activities. The National Plan for Forest Fire Control and Restoration of Affected Areas is its main forestry-related project, with 59% of the total value (Table 73).

Table 73 – Forestry-Related Investments of MADS (1998-2022)

Project Title	Period		Investment (USD million)		Share
	From	To	Total	Year	
National Plan for Forest Fire Control and Restoration of Affected Areas	1998	2022	78.5	3.1	58.9%
National Plan for Ecosystem Restoration	2010	2019	32.4	3.2	24.3%
Forest Ecosystems Rehabilitation	2004	2011	19.1	2.4	14.3%
National Strategy for Reducing Emissions from Deforestation and Forest Degradation	2010	2014	3.4	0.7	2.5%
Total			**133.4**	**9.4**	**100.0%**

Source: MADS (2012), adapted by the Consultant.

5.2.6 – Costa Rica

In Costa Rica, the forestry-related investments averaged USD 37 million per year between 1997 and 2012, and were distributed in two ministries: The Ministry of Agriculture and Livestock of Costa Rica (MAG), with 54% of the total; and the Ministry of Environment, Energy and Telecommunications (MINAET), with 46% (see Table 74).

Table 74 – Forestry-Related Governmental Investments in Costa Rica (1997-2012)

Organization	Investment (USD Million per year)	Share
MAG	20	54%
MINAET	17	46%
Total	**37**	**100%**

Source: CATIE (2011); GCP (2010); adapted by the Consultant.

- **Ministry of Agriculture and Livestock of Costa Rica (MAG)**

The Ministry of Agriculture and Livestock of Costa Rica (MAG) has the Tropical Agricultural Research and Higher Education Centre (CATIE) as the main forestry-related institution. CATIE is an international institution focusing on research and education in agricultural sciences and natural resources, established in 1942 as the Inter-American Institute of Agricultural Sciences (IICA). It seeks a substantive, verifiable impact on regional economic growth and social development in its member countries, as well as the conservation of their natural resources and environment. With a permanent and temporary staff of nearly 500 and an average yearly budget of some USD 20 million, CATIE occupies an important niche in Latin America (CATIE, 2011).

CATIE has accumulated extensive experience in the design and field experiments of forest management and agro-ecosystems in Central American countries, such as Guatemala, Honduras, Nicaragua and Costa Rica, as well as proposals for land use planning in Guatemala

and Nicaragua. To this end, the incorporation of key management elements in communities and business management, an encouragement for commercialization of non-traditional timber species, and the introduction of non-timber species production have been made.

A condition to make these field activities feasible was a movement to legalize land property ownership and the adjustment of legal framework for managing and using forest resources (e.g. community forest concessions in Petén, Guatemala; forest management plans for mangroves; and technical proposals for managing non-timber ornamental plants listed on CITES appendix). The example of forest concessions granted to communities in Petén, Guatemala was used as a model in some indigenous communities in Panama. In recent years, CATIE's regional influence has been growing, and new actions are now underway in Mexico, the Dominican Republic, Ecuador and Bolivia (CATIE, 2011).

- **Ministry of Environment, Energy and Telecommunications of Costa Rica (MINAET)**

The Ministry of Environment, Energy and Telecommunications of Costa Rica (MINAET) has as main forestry-related program the National Forestry Financing Fund of Costa Rica (FONAFIFO). Costa Rica is well-known for its experiments with innovative policy to protect its natural resources. In 1996, Costa Rica enacted the Forest Law 7575, which introduced incentive-based measures to compensate forest owners for the conservation of forest functions that provide environmental services to society.

The law explicitly recognized four environmental services provided by forest ecosystems: (i) Mitigation of greenhouse gas emissions; (ii) Hydrological services, including provision of water for human consumption, irrigation, and energy production; (iii) Biodiversity conservation; and (iv) Provision of scenic beauty for recreation and ecotourism. To secure these services, a system called PSA (*Pagos por Servicios Ambientales),* or payments for environmental services was introduced.

The PSA programme is managed by the FONAFIFO. It compensates natural and planted forest owners for conserving, managing or restoring their forests. The PSA program receives revenues from three main sources:

i. Tax on fossil fuel sales (3.5%): this tax provides about USD 10 million a year to the program, equivalent to about a quarter of the total revenue for the PSA.
ii. ODA and Philanthropy: to secure the biodiversity benefits of the PSA programme; efforts to collect revenues from ecotourism and the establishments of an endowment fund are being explored because these sources are not constant.
iii. Water Conservation Fee: this mechanism previously relied on voluntary water agreements with large water users, including hydropower companies, agribusinesses, a bottling company, and hotel companies. In 2005, however, the government revised its water tariff structure and introduced an additional conservation fee. This fee raises around USD 19 million annually, 25% of which is used for the PSA program (with 50% for the Ministry of Environment and Energy's Water Department and 25% for Protected Area financing.

Some additional financing is generated through large agreements to pay for forest carbon credits. The PSA program delivers finance through performance-based payments to landowners across the country. Payments for forest protection, management, and regeneration are made over a 5-year period, while agroforestry payments are made over 3 years and reforestation payments made over ten years.

By 2008 over 10,000 contracts had been issued under the PSA programme, with USD 206 million paid out to private landowners (an average of USD 17.2 million per annum since 1997) protecting 668,369 hectares of land (GCP, 2010).

Environmental benefits in the form of protection of water sources, improvement of water quality, protection of forest for present and future generations, and improvement of degraded lands were the most important benefits obtained from the PSA program. Economic benefits, such as

the payments, tax relief, and protecting the land against squatters, are also important. Other benefits are potential for new economic activities, such as ecotourism projects, education, and technical support received from FONAFIFO (IIED, 2003).

This new conservation system requires a more developed institutional infrastructure. The PSA is still not well understood among the Costa Rican society, and there is still an imbalance between supply and demand for this program due to the lack of resources and funds (UNCCD, 2010).

5.2.7 – Dominican Republic

- **Ministry of Environment and Natural Resources of the Dominican Republic (MMAyRN)**

The Ministry of Environment and Natural Resources of the Dominican Republic (MMAyRN) has as main forestry-related initiative the National Action Programme to Combat Desertification (PAN). The PAN was established in 2006 to combat and control the causes of desertification and natural resources degradation in arid, semiarid and dry sub-humid areas, and mitigate the effects of drought throughout the country, through the application of long-term strategies. The program is important to support the efforts of the country to combat desertification and recover forests. It was designed to be implemented over the 2006 – 2016 period (UNCCD, 2007). The average investments in this program are USD 3.4 million per year between 2012 and 2015 (MMAyRN, 2011).

5.2.8 – Ecuador

- **Ministry of Agriculture and Livestock of Ecuador (MAGAP)**

The Ministry of Agriculture and Livestock of Ecuador (MAGAP) is spending a total USD 96 million in forestry-related programs between 2009 and 2012, equivalent to an average **USD 24 million per year** during this period (MFE, 2012). The main program under MAGAP is the Forestry Promotion and Development Program (PROFORESTAL). PROFORESTAL is a public institution established in 2008 under MAGAP. Its goal is to carry out the National Afforestation and Reforestation Plan (PNFR), through programs and projects for social and agroforestry plantations, establishment of industrial forest plantations, and trade relations aiming to preserve the country's natural forests and to generate jobs in rural areas. PROFORESTAL has established 1,665 hectares of forest plantations between 2009 and 2011 (PROFLORESTAL, 2012).

5.2.9 – El Salvador

- **Ministry of Agriculture and Livestock of El Salvador (MAG)**

The Ministry of Agriculture and Livestock of El Salvador (MAG) has as main forestry-related initiative, the Forest Bonus Program (*Bono Forestal*). This program aims to promote the development of the forestry sector. The focus is on the establishment and management of forest plantations, in order to generate a sustainable flow of forest products to meet the domestic demand and contribute to improve the economic, social and environmental conditions of the country (BANDESAL, 2006).

Between 2006 and 2010, the program invested a total amountof USD 5.6million, equivalent to an average USD 1.1 million per year, for the establishment of 6,100hectares of forest plantations for wood purposes, and 14,000hectares ofcoffeeplantationsassociated withagroforestry.

The duration of the programisfive years. The new plantationsreceivetechnical assistancefor up to 15years to learn moreskillsto managethe species planted. The program benefits plantations with areas between 1 and 60 hectares.Under the *Bono Forestal*, treespecies for wood purposes

(such as Pine, Cypress, Teak, Cedar, Mahogany) and for non-wood purposes (such as Walnut and fruit trees) are used for plantation (UCJSC, 2007).

5.2.10 – Guatemala

- **Ministry of Agriculture, Livestock and Food of Guatemala (MAGA)**

The Ministry of Agriculture, Livestock and Food of Guatemala (MAGA) is responsible for forestry in Guatemala. Its investments totalled USD 12.6 million per year between 2006 and 2011, and were divided among the National Council of Protected Areas (CONAP), with 5% of the total, and the National Institute of Forests (INAB) with 95% (see Table 75).

Table 75 – Forestry-Related Investments under MAGA (2006-2011)

Organization	Investment (USD Million per year)	Share
CONAP	0.6	5%
INAB	12.0	95%
Total	**12.6**	**100%**

Source: CONAP (2011); PFN (2010), adapted by the Consultant

- *National Council of Protected Areas of Guatemala (CONAP)*

The National Council of Protected Areas of Guatemala (CONAP) manages the National Fund for the Nature Conservancy (FONACON). Between 2009 and 2010, it invested a total of USD 1.3 million, or an average of USD 0.6 million per year (CONAP, 2011).

- *National Institute of Forests of Guatemala (INAB)*

The National Institute of Forests of Guatemala (INAB) has as its main forestry-related initiative the Guatemalan National Forestry Incentive Program (PINFOR). This program aims at fostering the creation of regional forest production centres of high productivity, to boost the supply of competitive forest products, reduce deforestation, generate environmental services, and promote employment in rural areas (PFN, 2010).

PINFOR was created bythe Forest Lawof Guatemala (Decree 101-1996) with fourspecific objectives: (i) Maintain and enhancesustainable forest production, incorporating natural forests toproductive economic activity; (ii) Incorporate forest vocation landsto forest activities, through the establishment and maintenance offorest plantations or naturalregeneration; (iii) Buildtimberproducing forestsforindustry development; (iv) Encourage the maintenance ofnatural forestsfor the generationof environmental services (PFN, 2010).

From 1998to 2009, PINFOR has providedincentivesin the amount ofUSD 147.5million**.** These investments led to the establishment of a total area of88,503hectaresof forest plantations. Of the totalarea established, 43% are coniferous, 48% hardwoodsand 9%mixed plantations(coniferousand hardwoods). In the 2006-2011 period, the investments reached USD 72 million, or USD 12 million per year (PFN, 2010).

5.2.11 – Guyana

- **Guyana Forestry Commission (GFC)**

The Guyana Forestry Commission (GFC) has the mandate to ensure that Guyana's forest resources are sustainably managed and conserved. The Commission, former Forestry Department, was established in 1979, with the objective to develop and monitor standards for forest sector operations; promote sustainable forest management, forest protection and conservation strategies; oversee forest research, and provide support and guidance to forest

education and training (GFC, 2011). Nevertheless, no financial values referring to governmental forestry-related investments were identified.

5.2.12 – Honduras

- **Secretariat of Agriculture and Livestock of Honduras (SAG)**

The Secretariat of Agriculture and Livestock of Honduras (SAG) has as main forestry-related initiative, the Honduran National Forest Program (PRONAFOR). This program is an instrument of the forest policy of Honduras. It aims at enhancing and increasing the forestry contribution to the economic, social and environmental development, optimizing comparative advantages and promoting the competitiveness of goods and services generated or produced by natural and planted forests (CBD, 2009).

PRONAFOR's implementation is divided into foursub-programs: (i) Economic Development of Forestry, (ii) Community Forestry, (iii) Environmental Services, Restoration ofEcosystems and Climate Change, and (iv) ProtectedAreasand Biodiversity.Each sub-programhas been formulated withspecific objectives,policy guidelines, goals and actions,for threeperiods:2010-2014, 2015-2020and 2021-2030.The estimate financial resources for PRONAFOR's implementation during the initial period of 2010-2014 are USD 522 million, equivalent to USD 104 million per year (CBD, 2009).

5.2.13 – Mexico

- **Secretariat of Environment and Natural Resources of Mexico (SEMARNAT)**

The Secretariat of Environment and Natural Resources of Mexico (SEMARNAT) is in charge of the protection, restoration and conservation of ecosystems, natural resources and environmental services of Mexico for their use and sustainable development. To this end, SEMARNAT and its agencies work in four high-priority aspects: (i) Conservation and sustainable use of ecosystems and their biodiversity; (ii) Prevention and control of pollution; (iii) Integral management of water resources; (iv) Combat climate change (SEMARNAT, 2011).The forestry-related average annual budget under the SEMARNAT was USD 336 million between 2003 and 2010, as shown in Table 76. The National Forestry Commission is the main organization, with 87% of the total resources.

Table 76 – Forestry-Related Average Annual Budget under SEMARNAT (2003-2010)

Organization	Investment (USD Million per year)	Share
CONAFOR	293.0	87.1%
INE	24.0	7.1%
CONANP	12.3	3.7%
DGPAIRS	7.1	2.1%
Total	**336.5**	**100.0%**

Source: CONEVAL (2011); INE (2009), adapted by the Consultant.

- *Mexican National Forestry Commission (CONAFOR)*

The Mexican National Forestry Commission (CONAFOR), created in 2001, is a decentralized public institution which aims to develop, promote and foster forest production activities, forest conservation and restoration, and participate in the formulation of forestry plans, programs, and implementation of sustainable forest development policies (CONAFOR, 2011). In 2010, the CONAFOR total budget was USD 293 million for forestry-related programs. The main program

under CONAFOR is the Program of Payment for Environmental Services (PSA), with 21% of the total value.

Table 77 – Forestry-Related Programs under CONAFOR (2010)

Project Title	Investment (USD Million)	Share
Program of Payment for Environmental Services (PSA)	62.6	21.4%
Program for Conservation and Restoration of Forest Ecosystems (PROCOREF)	61.4	20.9%
Conservation and Restoration Projects	58.8	20.1%
Promotion of Forest Ecosystems Production and Productivity in a Sustainable Manner	32.0	10.9%
Program for the Development of Commercial Forest Plantations (PRODEPLAN)	27.6	9.4%
Program of Environmental Services Markets for Carbon Capture , Biodiversity and Improve Agroforestry Systems (CABSA)	24.9	8.5%
Program for Forest Development (PRODEFOR)	20.7	7.1%
Program of Technical Assistance for Accessing Forest Programs	5.1	1.7%
Total	**293.0**	**100.0%**

Source: CONEVAL (2011), adapted by the Consultant.

The PSA seeks to contribute to the conservation of forest resources through the mechanisms of hydrological environmental services. Priority forest areas for the provision of environmental services associated with the hydrological cycle are conservedwith the participation of their owners (CONEVAL, 2011).

- *Mexican National Commission of Natural Protected Areas (CONANP)*

The Mexican National Commission of Natural Protected Areas (CONANP) established in 2000 under the SEMARNAT, is responsible for the administration of the protected natural areas. Since 2001, its responsibilities expanded to integrate the Regional Sustainable Development Programs (PRODERS), aiming at reducing poverty and marginalization of rural and indigenous communities (CONANP, 2011).

CONANP´s major responsibility is the Conservation Program for Sustainable Development (PROCODES), which aims to contribute to ecosystems and biodiversity conservation through sustainable use and development in protected areas, areas of influence and other types of conservation. Communities living in protected natural areas and conservation areas of influence have their local capacities strengthened to engage them in the conservation of ecosystems and biodiversity. In 2010, the PROCODES budget was USD 12.3 million (CONEVAL, 2011).

- *General Directorate for Environmental Policy, Regional and Sectorial Integration of Mexico (DGPAIRS)*

The General Directorate for Environmental Policy, Regional and Sectorial Integration of Mexico (DGPAIRS) has as its main responsibility the Environmental Institutional Development Program (PDIA). It aims to contribute to state governments have their environmental agencies with appropriate institutional development for environmental management. In 2010, the PDIA budget was USD 7.1 million (CONEVAL, 2011).

- *Mexican National Institute of Ecology (INE)*

The Mexican National Institute of Ecology (INE), under SEMARNAT, supports it in achieving its goals. INE is responsible for the generation of scientific and technical information on environmental issues and human resources training, to inform society, support decision making, encourage the protection of the environment, promote sustainable use of natural resources (INE, 2011).

Under the INE is the PSAH (*Pagos por Servicios Ambientales Hidrológicos*), established in 2003. The program aims to secure Mexico's water supply by paying locals to conserve forests that are at risk of deforestation. The PSAH program keepsa direct link between ecosystem service buyers and providers on a national scale by raising revenue from national water fees (GCP, 2010). Between 2003 and 2008, PSAH had an average annual budget of USD 24.0 million (INE, 2009).

The PSAH program was the first PES mechanism to be implemented in Mexico, thus it faced some key challenges. First was to earmark the revenues from the scheme to pay for forest conservation. The second issue was that some officials perceived water scarcity as a natural problem, not man-made. A scientific study showed the importance of forests for maintaining water resources, and applied the precautionary principle for the rest of the country.

The PSAH program is currently working together with Mexico's Program of Payments for Carbon, Biodiversity and Agroforestry Services (PSA-CABSA), established in 2004, as an integral component of Mexico's ecosystem finance policy (GCP, 2010).

5.2.14 – Nicaragua

- **Ministry of Environment and Natural Resources of Nicaragua (MARENA)**

The Ministry of Environment and Natural Resources of Nicaragua (MARENA) is responsible for forestry-related investments of the government of Nicaragua. Between 2006 and 2012, forest investments totalled an average of USD 16.3 million per year. Almost 62% of this value is related to the National Forestry Program (PFN) (MARENA, 2011).

The PFN objectives are to improve the quality of life of the population with emphasis on small and medium farmers and foresters, indigenous and ethnical communities, supported by the environmental conservation and sustainable production, national food security and sovereignty, with a focus on land tenure (INAFOR, 2008).

5.2.15 - Panama

- **National Environmental Authority of Panama (ANAM)**

The National Environmental Authority of Panama (ANAM) invested an average of USD 25 million per year between 2004 and 2008 in forestry-related projects (ANAM, 2009). The main project under ANAM is the Conservation of Watersheds, which is a detailed diagnosis of the country watersheds. It will establish the criteria and indicators for the preparation of the Plan of Environmental Territorial Planning, and the Plan of Management, Development, Protection and Conservation of Watersheds. These plans will seek to minimize the effects caused by negative human activities over the nature (ANAM, 2010).

5.2.16 – Paraguay

- **Secretariat of Environment of Paraguay (SEAM)**

The Secretariat of Environment of Paraguay (SEAM) has as main forestry-related project the Paraguay Biodiversity Conservation Program. This Program has a total budget of USD 13.7 million for the period 2009 - 2011, averaging USD 4.6 million per year. Its objectives are to

preserve biodiversity and promote sustainable land use in the Atlantic Forest ecosystem and associated ecosystems of eastern Paraguay (SEAM, 2012).

- **Financial Development Agency of Paraguay (AFD)**

The Financial Development Agency of Paraguay (AFD) is the only wholesale public bank in Paraguay, established in 2005, which provides public lending products exclusively through enabled retail banks, finance companies and cooperatives (AFD, 2010). Paraguay lacks financial resources and appropriate financing mechanisms for the forest sector. Existing local resources cannot be used to finance sustainable management of natural forests and forest plantations because there is no retail bank in Paraguay qualified to assess and support the implementation of forestry projects that require long-term implementation period (INFONA, 2012).

However, the AFD has launched a pilot product to finance reforestation projects for commercial purposes. The conditions are to finance up to 100% of the project value, or 80% of the appraised value of the property, whichever is lower. The term and grace periods will be subject to the project characteristics, which differ depending on the end use of the forest, with a maximum financing timeframe of 12 years, including the grace period.

The product requires the existence of forest plantations to be offered as a guarantee for future forestry projects. The product would begin with an initial portfolio of USD 2 million. FAO should assist AFD to increase these funds in terms of rates and time periods, enabling them to expand its coverage. INFONA and FAO should continue working with the AFD for the agency to develop a long-term policy for forest financing which should be incorporated into the forestry plans and projects of the Government.The scheme for granting these credits would be typical for AFD: the institution finances the Intermediary Financial Institutions (IFIs), which can be retail banks, financial institutions, credit unions, or production cooperatives. These IFIs carry out direct loans to end customers under the agreed terms and corresponding guarantees. Nevertheless, it is necessary that FAO and INFONA continue to advise IFIs on the importance of the forest sector and the need to disseminate the financing line to its customers (INFONA, 2012).

On the other hand, the AFD livestock fund destined for livestock production is offering loans to rural producers engaged in forest plantations, using the agroforestry system. The terms and conditions of these loans are a maximum period of 12 years, a 2 year grace period, and 12% annual interest rates. The amounts of disbursements should not exceed USD 100,000 per loan. The initial scope of the Livestock Fund portfolio would be approximately USD 1 million, which may be increased by the AFD. In order to attract retail banks to finance forestry projects, it is necessary initially to present the concept of what are forestry projects as regards their characteristics, terms and conditions and expectations, enabling the financial institutions to make proper feasibility analysis of forestry projects. The knowledge on forestry and the degree of confidence of financial institutions in forestry projects should be high because they are long-term investments (INFONA, 2012).

5.2.17 – Peru

- **Ministry of Agriculture of Peru (MINAG)**

The Ministry of Agriculture of Peru (MINAG), established in 1942, aims to develop the agricultural sector, promoting sustainable use of natural resources, competitiveness and equity in the context of modernization and decentralization of government, to contribute to rural development and improved quality of life of the population (MINAG, 2011).

Its investments in several forestry-related programs shall total USD 324 million between 2004 and 2020 (see Table 78). The main program is the Management and Conservation of Renewable Natural Resources in the High Andes Zones of Peru, with a total value of USD 80 million (25% of the total).

The main objective of the program is to address the inadequate agro-ecological practices and insufficient investment in renewable resources management, such as water, soil and vegetation. These limitations lead to soil erosion, fertility loss and weakening of pasture, restrainingrural populations´ access to proper use of natural resources, thus limiting economic development.

Table 78 – Forestry-Related Programs under MINAG (2004-2020)

Project Title	Timeframe		Investment (USD Million)		Share
	From	To	Total	Year	
Management and Conservation of Renewable Natural Resources in the High Andes Zones of Peru	2007	2016	80.1	8.0	25%
Program of Public Investments of the National Forest Conservation Program in the Departments of Amazonas, Lambayeque, Loreto, Piura, San Martin, Tumbes, Ucayali and Madre De Dios (PNCB-PI)	2011	2018	59.5	7.4	18%
Programme of Reduction of Soil Degradation through Activities of Reforestation and Soil Conservation in 12 Regions of Peru	2008	2017	45.6	4.6	14%
Reforestation and Conservation of Tree Species in the Central and Northern Mountains of Peru	2007	2016	38.2	3.8	12%
Program of Public Investments for Strengthening the Environmental and Social Management of Indirect Impacts of the Southern Interoceanic Highway – 2nd Phase (PGAS CVIS - 2)	2011	2020	28.7	2.9	9%
Others			72.1	15.0	22%
Total			**324.2**	**41.7**	**100%**

Source: MINAG (2011), adapted by the Consultant.

5.2.18 – Uruguay

The forestry-related governmental investments in Uruguay totalled an average USD 14 million per year between 2004 and 2016. About 92% of this total was related to the Ministry of Livestock, Agriculture and Fisheries of Uruguay (MGAP).

Table 79 –Forestry-Related Governmental Investments in Uruguay (2004-2016)

Organization	Investment (USD Million per year)	Share
MGAP	13	92%
MTOP	1	8%
Total	**14**	**100%**

Source: GEF (2004); MGAP (2010); World Bank (2011e); MTOP (2012), adapted by the Consultant.

- **Ministry of Livestock, Agriculture and Fisheries of Uruguay (MGAP)**

The Forest Investment Act nº 15,939 was enacted in 1987 and established a forest investment program that spurred Uruguay to take the leadin Latin Americain increasingforest resources, whilepreserving and increasingnatural forest areas. It helped to protect and recoverthenaturalforest areaandincrease the planted forest area withfast-growing species. Natural forests area increased byover 30%, and planted forests by 400% in less than15 years,

since the Act went into effect. The initial purpose of the program was to increase forest areas by 200,000hectares, but by 2006 it had added 800,000 hectares, surpassing by far the initial goals (FAO, 2006a).

The Forest Investment Act is under the MGAP. Between 2006 and 2008 the Government of Uruguay invested a total of USD 33 million in the Forest Investment Act, equivalent to an average USD 11 million per year. This represented 78% of MGAP forestry-related investments carried out between 2004 and 2016 (Table 80).

Table 80 – Forestry-Related Programs under MGAP (2004-2016)

Project Title	Period		Investment (USD Million)		Share
	From	To	Total	Year	
Forest Investment Program	2006	2008	33.0	11.0	78.0%
Sustainable Management of Natural Resources and Climate Change	2012	2016	6.0	1.2	14.2%
Integrated Ecosystem and Natural Resources Management in Uruguay	2004	2009	3.0	0.5	7.1%
National Forest Inventory	2008	2010	0.3	0.1	0.8%
Total			**42.3**	**12.8**	**100.0%**

Source: GEF (2004); MGAP (2010); World Bank (2011e), adapted by the Consultant.

The Forest Investment Program is administered by the General Directorate for Forests of Uruguay (DGF), under the MGAP. Its forests developmentswere promotedthrough the following economic incentives: (i) Tax exemption onthe affected landtoforest production (estate tax, income taxand municipal taxes); (ii) Cash benefitof 50%ofplantingcosts; (iii) Ability toinvest more than 30% of income taxesin forestry projects, establishing similar benefitsfor buyersofUruguayanforeign debt bonds; (iv) 12 years periodfor anynew taxexemption; (v) Exemption fromimport taxesonmachineryforforestry and for approved forestindustrialprojects; (vi) Soft loanswith 10 to 12year grace period forrepaymentofprincipal and interest; (vii) Separated forest owner from land owners, which easedaccessto credit; (viii) Allowedland agreements for up to30 years. These instrumentswere used bytraditionallivestock producersto diversify production, foreign investorsand international companies, who came to Uruguaytobuy landto promote afforestation(FAO, 2006a).

- **Ministry of Transports and Public Works of Uruguay (MTOP)**

Between 2005 and 2011, the Ministry of Transports and Public Works of Uruguay (MTOP) spent USD 7.3 million in forest roads, equivalent to an average of USD 1 million per year during this period (MTOP, 2012).

5.2.19 – Venezuela

In Venezuela, the forestry-related investments averaged USD 6.6 million per year between 2006 and 2013, and were distributed in two ministries: The Ministry of Planning and Finances of Venezuela (MF), with 22% of the total, and the Ministry of Environment of Venezuela (MINAMB), with 78% (see Table 81).

Table 81 – Forestry-Related Governmental Investments in Venezuela (2006-2013)

Organization	Investment (USD Million per year)	Share
MF	1.4	22%
MINAMB	5.1	78%
Total	**6.6**	**100%**

Source: MINAMB (2011), adapted by the Consultant.

The Ministry of Planning and Finances of Venezuela (MF) has as main forestry-related initiative the project called the “Strengthening of Forest Production in the Monagas State”. The project total budget is USD 5.7 million to be executed between 2012 and 2015, corresponding to an average USD 1.4 million per year (MINAMB, 2011).

The Ministry of Environment of Venezuela (MINAMB) has been spending an average of USD 5.1 million per year in forestry-related projects since 2006, which is expected to continue until 2016. Its main initiative is the project called the “Extraordinary National Plan for Productive Reforestation”, representing about 90% of this total (MINAMB, 2011).

6 – STRENGTHENING FORESTRY FINANCING

This chapter is divided into two main parts: (i) Proposals on strengthening existing forest-related financing mechanisms; and, (ii) Analysis on the advantages and disadvantages for establishing a voluntary global forest fund.

6.1 – PROPOSALS FOR STRENGTHENING EXISTING FOREST-RELATED FINANCING MECHANISMS

Based on the analysis provided in the previous chapters, this section examines proposals on strengthening existing forest-related financing mechanisms. It is divided into: (i) Sources of forest financing; (ii) Gaps and opportunities for forest-related financing; (iii) Trends and implications of new and emerging forest-related financing initiatives; (iv) Access to forest financing; and, (v) Successful country experiences and initiatives.

6.1.1 – Sources of Forest Financing

- **Private Investments**

Commercial Forestry Investors

Private investments are important for the forest sector. Investments in sustainable forest projects contribute to increase the production, productivity and competitiveness of the forest sector, which generates employment, reduces poverty and helps to improve the environment. To increase private investments in SFM, it is vital to improve the investment climate.

The private sector has, over the past few years, developed new forest-related financing initiatives, and the main public strategy should be the improvement of the investment climate to attract new private investors. Among the new relevant investors in forest-related projects are institutional investors, mainly pension funds. Investment portfolio diversification is expected in the future.

Governments should adopt the forestry partnership programs as a policy to enable rural landowners to participate in the timber production chain through forest plantations. This mechanism generally involves forest companies that provide technical assistance to landowners of the region to establish and manage forest plantations, and facilitates the access to special financing options.

In some cases, financial institutions are also involved. Public banks offer credit lines to support small landowners in the establishment and management of forest plantations. The program includes coordination with governments and financial institutions to facilitate the access of small landowners to credit lines and other aspects.

Financial Institutions

Private financial sector investors are the largest financial organizations worldwide. However, their investments in forestry are still incipient, since there are almost no public mechanisms to attract these funds into the forest sector. Governments should seek ways to involve private banks as providers of financial resources collected by forestry-related funds.

Philanthropic Organizations

Philanthropic organizations invest in several forestry-related projects, generally aiming at forest conservation. Governments should seek ways to structure more efficient and effective public-private initiatives with such organizations, especially regarding the administration of national, state (provincial) and municipal parks and other conservation areas.

- **Public Investments**

Bilateral ODA from Developed Countries

Bilateral ODA from Developed Countries in Forestry has grown 122% between 2006 and 2010, equivalent to an average of USD 608 million per year. Latin America and the Caribbean participated with an average USD 218 million per year during the same period, corresponding to 36% of the total. These funds should be used to create mechanisms to attract private sector investments towards forestry, investing especially in public governance and public-private sector capacity building.

Multilateral ODA from Traditional Sources

Similarly to bilateral ODA from developed countries, the multilateral agencies financing could be used also to create mechanisms to attract private sector investments towards forestry, investing especially in public governance and private sector capacity building.

6.1.2 – Gaps and Opportunities for Forest-Related Financing

- **Financing Demand for Sustainable Forest Management**

The estimated gap of USD 25 billion in forestry-related financing occurs mainly because 71% of forest area in LAC remains unmanaged. These figures show that international funding to support sustainable forest in the LAC region is relatively small compared to the total needs.

As the protection of LAC forests will generate global benefits, all countries will have to take a much greater financial responsibility to effectively promote SFM in Latin America and the Caribbean. This gap should be financed by the public and the private sector by means ofsupporting policies and cooperation among them to develop appropriate financial mechanisms. The public sector should work with the private sector towards the best business financing opportunities, which would generate the best cost-benefit for the scarce public resources available.

- **Current Identified Forestry Activities**

Biodiversity

Project financing in biodiversity is limited. Market-based finance opportunities should, therefore, be further assessed. This could include, for instance, biodiversity-related ecotourism and also local processing of non-wood forest products. These activities can be major sources of income, increasing the forest value, and thus need to be better explored. Ecosystem services also need to be considered. The booming biodiversity-based pharmaceutical markets could position the LAC region as a leader in the market through further investment in research and technology development. Increasing the available funding for protected forest areas should be a priority for future forest-related biodiversity financing.

Capacity Building

Opportunities in capacity building could be explored with increased partnerships between the public and the private sector. Capacity building is one of the most important components in an overall strategy to sustainably manage forests in LAC. The public sector should invest more in capacity building and also improve efficiency. Hiring specialized private companies to carry out capacity building activities with better quality and cost-benefit, is an option.

Climate Change

The investments in climate change forestry-related projects in the LAC region are relatively small. According to IPCC (2007), on the overall forestry mitigation activities implemented under

the Kyoto Protocol, including the Clean Development Mechanism (CDM), have to date been still limited. The opportunities to increase activities have been identified and include simplifying procedures, developing certainty over future commitments, reducing transaction costs, and building confidence and capacity among potential buyers, investors and project participants.

Climate change poses serious risks to the environment and human health; thus, it presents new challenges for the industries and governments. Nevertheless, climate change may also create new opportunities to be explored for the benefit of the forest sector. Policy-makers and forest managers should take these opportunities into consideration in the context of ecosystem services that forests provide to a wide range of stakeholders.

It is important that climate change strategies relevant to forests are integrated into a country's existing forest policy framework and other sectors related to forests. This can help to ensure that climate change objectives are balanced with other forest sector objectives and that trade-offs are weighed and synergies captured (FAO 2011).

- *Ecotourism*

Ecotourism may generate important economic and social benefits, mostly associated to protected areas and surrounding communities. A well-developed ecotourism industry can contribute to shift local behaviours, help conservation and reducing biodiversity threats and avoid deforestation. An efficient development of ecotourism would significantly contribute to forest financing and achieving sustainable management of forests. To this end, governments should collaborate to achieve sustainable ecotourism development, making efforts to: (i) Increase information available to potential visitors on protected areas; (ii) Create incentives for public-private partnerships, such as the concession of national, state (provincial) and municipal parks and other protection areas, to promote ecotourism; (iii) Develop mechanisms for levying visitors' fees and reinvestments in protected areas; and, (iv) Improve the skills of protected areas administrators to manage ecotourism.

- *Forest and Landscape Restoration*

Opportunities for forest landscape restoration are largely related to developing tools for the private sector to carry out such projects to adjust their rural properties to environmental requirements. For instance, the mandatory conservation of riparian forests would demand investments in: (i) Proper land demarcation; (ii) Plantation recovery; (iii) Assisted forest regrowth; (iv) Fencing, when animal husbandry activities are also carried out in the land.

- *Governance*

Initiatives on improving governance are considered to have a high cost-benefit ratio. To improve the efficiency, governance projects need, in most cases, be linked with public capacity building projects. Enhanced public organizations and institutions produce substantial improvements in the use of public resources, at the same time improving the business environment, reducing transaction costs and attracting more private investments for SFM.

- *Natural Forest Conservation*

One of the tools for achieving lasting conservation and protection of natural forests is related to public-private partnerships, especially regarding granting concession of public forests, including national, state and municipal parks and other protected areas to the private sector. On the other hand, the demand for ecotourism is increasing and has a great potential, but options available are limited. Only a small fraction of protected forests are open to the public due to the lack of public resources in investing in infrastructure in these areas. Successful concession examples should be replicated. The introduction of effective public use and the development of concession plans in protected areas should help generate revenues and improve public access to those areas. Concessions are usually made through public bids, and investments in the improvement of park infrastructure, such as trails, park roads, and campgrounds and so on

should be made in exchange to the allowance of charging entrance fees. These activities will also promote reducing deforestation and conserving biodiversity.

- *Natural Forest Sustainable Management*

The improvement of natural forests sustainable management is largely related to public investments in the improvement of the business environment to enhance the private sector investments in this area. As previously mentioned there are 681 million hectares of unmanaged natural forests in LAC, representing 71% of the total area. Most of this area could be sustainably managed by the forest owners, which currently in many cases regard these areas as unproductive. Public investments for attracting private financing should focus on: (i) Governance, including improved institutions and simpler and technically more accurate forestry-related legislation; (ii) Legalization and titling of land of all forest area; (iii) Capacity building, providing technical information and assistance to forest owners. .

Another important mechanism for improving investments in the natural forest sustainable management is the concession of public forests to the private sector. Successful mechanisms from forestry competitive countries such as the United States, Canada, Germany, Sweden and Finland should be benchmarked.

Finally, governments should develop mechanisms for attracting forest-related industries to the sustainably managed natural forests regions. The establishment of industrial facilities nearby managed forests is a key element in the strategy for improving the attractiveness of investments in SFM. Basic forest products have low value-added, they are time sensitive and sensible to freight over long distances. The establishment of local and regional consuming centres for forest products will also contribute to sustainable management of natural forests. If properly processed, wood and non-wood forest products will become the supply basis for several economic sectors and production chains, including energy and food.

- *Payment for Environmental Services (PES)*

The opportunities for PES are related to the improvement of regulations to charge of public fees over the use of natural resources. The fees established can be used for the establishment of public funds, which in turn would be used for the payment of environmental services. Water looks like to be the most appropriate resource to start with. Forests would receive a large portion of the payments for watershed services they provide. Among the main beneficiaries of these payments are forest owners located in the river basin that had their resources exploited.

- *Planted Forests*

The increasing interest from the private sector in investing in planted forests shows that it is an economically feasible and a competitive business opportunity. The role of the public sector to enhance investments is to improve the business environment to further attract investments in planted forests. Main efforts to improve business environment are principally: (i) Governance; (ii) Land titling; and, (iii) Capacity building.

Additionally, governments should develop mechanisms for attracting forest-related industries to the forest plantations regions. The establishment of forest-based processing facilities nearby forest plantation areas is a key element in the strategy for improving the attractiveness of investments in SFM. Basic forest products have low value-added, and are very sensible to freight over long distances. The establishment of local and regional consuming centres for forest products will also contribute to increasing planted forest areas. If properly processed and traded, wood and non-wood forest products will become the supply basis for several economic sectors and productive chains, including energy and food.

- *Sustainable Development*

The forestry component should be incorporated in all sustainable development initiatives carried out by the public sector, and required as pre-requisite for all private sector activities. To this end, governance, capacity building and forest policies should be improved.

- *Sustainable Land Management*

Many of the causes of land degradation are economic. Therefore, the economic and financial incentives for land users should be changed accordingly to halt and reverse land degradation. Land users will invest in sustainable land use practices once they recognize that there is a direct benefit. Environmental services are being recognized, however there still exists the challenge of mainstreaming them into existing markets.

Other causes of land degradation are educational. In many regions of Latin America and the Caribbean, slash and burn agriculture is still the most common land management technique. This is leading to the desertification of several regions. Capacity building initiatives could be an alternative to help solve this issue if farmers become aware that burning the soil degrades their land assets, decrease fertility and crop production.

6.1.3 – Trends and Implications of New and Emerging Forest-Related Financing Initiatives

International organizations and other global forest-related financing initiatives, over the last decade, have strongly focused on climate change. Other aspects focused are also indirectly linked with climate change, including forest law enforcement, restoration of forests and degraded lands, and biodiversity. Limited attention has been given to forest management and sustainable development projects. The general trend is to increase the number of organizations involved in the implementation and as beneficiaries of the financing initiatives.

Overall, there are a large number of initiatives to support forest-related projects. Nevertheless, for LAC countries the actual investments in new forest-related financing initiatives, with a few exceptions, have a narrow scope and are relatively small. This indicates that there is a considerable gap between the demand and the actual availability of finance for sustainable management of forests in the LAC region.

Public funds should be used to implement mechanisms to attract private investments. The trend is to involve several stakeholders, particularly from the private sector, in the formulation and implementation of funds and projects. This involvement has several implications.

Other concepts and views will need to be incorporated in the decision-making process and more discussions will be required to reach a consensus. On the other hand, the process tends to be more democratic, will enlarge the number of supporters and will tend to make available additional funds.

6.1.4 – Access to Forest Financing

Private sector is not the only, but as already mentioned it is by far the major investor in forest-related initiatives. The private sector has also been the main instrument for forest financing. As a general rule, the public sector has the role to improve the business climate to facilitate investments. Financing mechanisms are among the factors to be considered to facilitate the investment process. Additionally, improved forestry-related information for the society is required, including technical assistance and technical information.

- **Macroeconomic and Institutional Aspects**

Macroeconomic factors and institutional aspects affecting forestry investments and financing in the LAC region include governance, law enforcement, fiscal policy and infrastructure..

Governments influence trade flows and lay down the legal system, the regulatory framework, business practices, taxation, and other factors. Depending on the quality of these

arrangements/performances, they can decrease transaction costs faced by investors and entrepreneurs, and positively influence how forest activities are organized and implemented. An adequate regulatory and institutional framework is fundamental to improve governance and law enforcement.

Thus, relevant macroeconomic factors and institutional aspects affecting investments and financing that need to be improved to support the implementation of Non-legally Binding Instrument on All Types of Forests to attaining SFM, include: (i) Establish a coherent relationship between different national policies and programs and the forest sector; (ii) Streamline legislation, increasing its efficiency and effectiveness and reduce transaction costs; (iii) Improve governance and law enforcement; (iv) Facilitate the development of a proper fiscal policy; (v) Improve the educational level; (vi) Ensure macroeconomic stability; and, (vii) Invest in infrastructure.

- **Intra-Sectorial Issues**

Land tenure and property rights, financing system and other policies outside the forest sector are intra-sectorial issues that can affect investments and financing. Secure land tenure and property rights facilitate access to credits, which are associated with higher investment, more intensive farming, and a stronger commitment to preserve natural resources. The ability to use land as collateral enhances financial market development and promotes greater investment.

Thus, governments should seek ways to: (i) Ensure stable and clear policies related to land tenure, property rights and forest concessions; (ii) Adjust intra-sectorial policies (agriculture, energy, infrastructure, trade and others), considering the national efforts to promote sustainable forest management; and, (iii) Create mechanisms to facilitate the access to financing.

To finance country efforts involving reforms to strengthen the system of land tenure and property rights is important to promote investment and facilitate SFM. It makes a larger number of investors to engage in economic activities involving land as an important asset (IDB, 2009).

Financing should consider the need to improve natural resource management in both intensive and extensive farming areas and this requires removing inappropriate price and subsidy policies, strengthening property rights, providing long-term support to natural resource management, and developing instruments to help manage increased climate risks (World Bank, 2008a).

Forest financing is an important instrument to allow leveraged investments and to increase productivity, improving the competitiveness and sustainability of forest enterprises (MDIC, 2011). Thus, the governments should seek ways to explore and encourage all sources and mechanisms of funding for the forest sector to achieve SFM.

The private sector is expected to play the lead role in global economic and production activities (World Bank, 2008c). On the other hand, the public sector is expected to play the lead role to create the enabling environment for promoting private investment conducive to investing in SFM.

- **Forest Sector Related Issues**

There is a set of forest-related issues that affect investments and financing of sustainable forest management. Among them, the most important issues are related to forest policy and capacity building.

Forest policy can be formulated to improve household income and to address other aspects that cause poverty. These are complemented by national governments programs to facilitate the implementation of SFM in the national forestry plan and support national development strategy. Education spending is the best example of how fiscal policy can foster development.

In relation to these issues, governments should seek to: (i) Improve the legal and regulatory framework related to forestry to increase efficiency and reduce transaction costs; (ii) Create and

strengthen the national and international markets for forest goods and services; (iii) Develop a comprehensive cost-benefit analysis of land use changes; (iv) Develop innovative and efficient instruments and mechanisms to facilitate the access to finance for investment; (v) Promote effective participation and involvement of stakeholders in forest decision-making processes; (v) Ensure technical training, skills development and R&D related to forestry; (vi) Develop innovative policy approaches and positive incentives for SFM, such as the PES and REDD approaches.

6.1.5 – Successful Country Experiences and Initiatives

Successful country experiences and initiatives, including those from forest competitive countries where forest related activities are relevant to their economy or to global trade and from LAC countries, are presented under this section.

- **Selected Countries Initiatives**

Competitiveness will be crucial for the achievement of sustainable forest management in Latin America and the Caribbean. Successful experiences and financing initiatives of the most competitive countries in the forest sector offers a good benchmark for developing countries. LAC governments should, therefore, attempt to conduct more detailed benchmarking to lay outeffective forestry-related programs.

Successful experiences of selected country initiatives provide examples on how forest-related financing initiatives have contributed to promote SFM. These initiatives have been implemented through strategic programs and projects, which encompasses a broad field, considering environmental, social, economic and technological issues, such as natural forest conservation and preservation, poverty eradication, involvement of local communities, increasing productivity of forest plantations, capacity building, among others. The experiences of the following countries could serve as benchmark for efforts to implement the Non-Legally Binding Instrument on Forests.

- *United States*

The FIA (Forest Inventory and Analysis) program of the United States Forest Service (USFS) provides the information needed to assess forests. This program projects how forests are likely to appear 10 to 50 years from now. This enables the USFS to evaluate whether current forest management practices are sustainable in the long run and to assess whether current policies are promoting sustainable development.

Another benchmark program from the United States is the NFS (National Forest System), also under the USFS. The general objective of this program is to ensure that the national forests are managed in an ecologically sustainable manner. Its main objectives are to improve and protect the forest, to secure favourable watershed conditions, and to provide a sustainable supply of forest products, including ecological restoration and protection, research and product development, forest fire reduction, and the maintenance of healthy forests

- *Canada*

The AFI (Aboriginal Forestry Initiative) represents a new approach from the government of Canada to foster enhanced aboriginal participation in the forest sector. The AFI empowers aboriginal entrepreneurs in the forest sector, by serving as a knowledge centre for aboriginal forestry and forest sector innovation, and to facilitate knowledge exchange and coordination of federal and other support to opportunity-ready aboriginal forestry projects and partnerships.

The NFD (National Forestry Database of Canada) is a partnership between the federal government of Canada and provincial and territorial governments within the country. Most of the data are provided by the provincial resource management agencies and federal land data are provided by the responsible federal departments, which are compiled by the Canadian Forest

Service. A Working Group on NFD provides guidance on enhancements to the database and improving methods of reporting the statistics. The ultimate objective is to provide reliable, timely information to the provincial and federal policy processes.

- *Germany*

Many forest owners in Germany own small and fragmented forests that are hard to manage. To facilitate management of small properties, the Forestry Groupings program was developed. It is designed to improve the economic situation of forest activities in small properties. Under this scheme forest operations can be conducted as a joint service, including the harvesting of wood and other forest products, the planting and tending of forest crops, silvicultural treatment operations, the building and maintenance of forest roads. In addition, forest products can be jointly marketed or machines purchased for joint use. This type of partnership could be applied in the LAC region where there are small and fragmented forests.

- *Sweden*

Energy taxation has been used as a policy instrument in Sweden since the oil crisis of the 1970s. In 1991 a Carbon Tax was introduced, which made the taxation over fossil fuels in district heating systems to increase up to 160%, depending on the fuel type used, whereas biofuel remained untaxed. Between 1980 and 2002, the use of biomass energy in Sweden has increased by 88%. In 2002, it represented 14% of the total Swedish energy supply, making this country a world leader in biomass energy use, increasing the use and competitiveness of forest products.

Another benchmark program from Sweden is the KOMET. This program encourages landowners to protect forests on their properties and inform them of which options are available for habitat protection through nature reserves, habitat protection areas, and nature conservation agreements. For the land owner to receive economic compensation for an area to be protected, the area must have high conservation value as the state only funds the protection of forest with high value and other areas important for biodiversity preservation.

- *Finland*

The ISTO (Climate Change Adaptation Research Program) program was launched as part of the implementation of the National Strategy for Adaptation to Climate Change, to generate information that will facilitate the planning of practical adaptation measures. This includes forestry-related projects, such as R&D initiatives to pre-select forest genetic materials that fulfil the demands concerning growth period, dormancy breakdown, among others.

The METSO 2008-2016 (Forest Biodiversity Program for Southern Finland) promotes voluntary conservation schemes, with the objective to end the decline of forest habitats and forest species and to stabilize the positive development in natural biodiversity. The action program involves management of protected areas including basic data collection, restoration and nature management, developing the network of protected areas, and nature management in commercially managed forests.

- *China*

The innovative program of the Four Wastelands Policy began in 1996. Within this program, farmers buy tracts of land through negotiated sales. This policy gave contracts to farmers and rights to economic benefits generated from the planting of crops, trees and grasses. In exchange, farmers should engage in sustainable land management practices, controlling erosion. This policy has been considered as a breakthrough land policy.

The Grain for Green project was established to eradicate rural poverty, combat desertification and ecological degradation in China, focusing on areas with steep slope and erosion-prone areas. Around 15 million farmers taking part in the project received compensation for setting

aside their land either in the form of cash, seedlings or grain. From 1999 to 2008 about 8.2 million hectares of farmland were converted into forestland.

The NFCP (Natural Forest Conservation Program) emphasizes the expansion of natural forests and increasing the productivity of forest plantations. This policy is being implemented with a new combination of policy tools: (i) Technical training and education; (ii) Land management planning; (iii) Mandatory conversion of marginal farmlands to forestlands; (iv) Re-settlement and re-training of forest dwellers; (v) Shared private ownership; and, (vi) Expanded research.

- **Successful Initiatives in Latin America and Caribbean Countries**

The most successful forestry-related financing initiatives in Latin America and Caribbean Countries could be replicated. The most important mechanisms in operation identified in LAC countries are summarized as follows.

- *Argentina*

The Government of Argentina established a forest plantation program in 1992. In 1999, the Forest Promotion Law was enacted to consolidate the previous Forest Plantations Promotion Regime, which consists of a special economic and tax regime for the promotion of investments in forestry. The forestry incentives include the following tax regime and economic benefits fo forestry-related investments: (i) Tax Stability for a 30 to 50 year period; (ii) Accelerated Depreciation of Capital Goods; (iii) VAT Refunds; (v) Non-Refundable Financial Aid; (vi) Tax breaks on assets, real estate, sales, and gross income from state and municipal governments. In many regions of Argentina, this policy has led to effective responses of forest owners, attracting large investments and generating jobs.

- *Brazil*

There are many successful experiences in Brazil, including projects related to integrated water resources management, payments for environmental services, sustainable management of natural forests and commercial plantations, combating deforestation, forest landscape restoration and reforestation, R&D activities on forest improvement, CDM projects, conservation and sustainable use of natural resources. Additionally, Brazil has developed Constitutional Funds that are a source of forestry-related credit line, addressing recovery, conservation and preservation of natural resources, and support the implementation of forestry projects which include forest management, reforestation, agro-forestry systems, and alternative energy generation, among others. The funding through the Constitutional Funds enabled the improvement of life quality in those regions, and contributed to generate jobs, increase regional production, increase tax collection, and reduce the rural exodus.

The most successful forestry-related initiatives in Brazil are under the BNDES (Brazilian Development Bank). Its most important credit line for forestry related investments is the BNDES *Florestal*, which supports: (i) Activities related to reforestation, conservation and forest restoration of degraded or converted areas; and (ii) Sustainable forest management in natural forests.

- *Chile*

The National Forestry Corporation (CONAF) is a public institution under the Ministry of Agriculture, responsible for the conservation, management and increase of sustainable use of forest resources utilization in Chile. Among the forestry-related projects carried out by CONAF, the Program of Forest Bonus is the most important, which corresponds to 69% of the total forest investments by CONAF.

The Program of Forest Bonus, was established in 1974, focusing on sustainablesupply of raw material for the country´s industrial growth. Its purpose is to promoteforestry development throughtwo components: (i) Subsidyfor afforestationandsand dune stabilizationin suitable soilsfor forestry; and (ii) Subsidytaxfor activitiesofadministration and management

offorestsplantedon suitable landfor forestry. Since 1974, this policy helped in the reforestation of 1.2 million hectares in Chile, which corresponds to around 50 % of the total planted area of the country.

- *Costa Rica*

Costa Rica is well-known for its innovative policy to protect its natural resources. In 1996, Costa Rican government introduced incentive-based measures to compensate private forest owners for the conservation of forest functions that provide environmental services to society, including: (i) Greenhouse gas mitigation; (ii) Hydrological services; (iii) Biodiversity conservation; and, (iv) Landscape beauty for recreation and ecotourism.

To secure these services, a system called the Payment for Environmental Services (PSA) was introduced, which is managed by the FONAFIFO (National Forestry Financing Fund). PSA is financial mechanism to promote forests cover recovery in private-owned lands. The PSA program receives revenues from three main sources: (a) Tax on fossil fuel sales; (b) ODA and Philanthropy; (c) Water Conservation Fees. It compensates natural and planted forest owners for conserving, managing or restoring their forests.

- *Dominican Republic*

The National Action Program to Combat Desertification (PAN) was established in 2006, to combat desertification and natural resource degradation in arid, semiarid and dry sub-humid areas in the Dominican Republic. The program is important to support the efforts of the country to combat desertification and recover forests. This type of program could be useful to recover forests in arid zones of the LAC region.

- *Ecuador*

The main forestry-related governmental program in Ecuador is the Forestry Promotion and Development Program (PROFORESTAL), established in 2006 to carry out the National Afforestation and Reforestation Plan (PNFR), through programs and projects for social and agroforestry plantations, establishment of industrial plantations, and trade relations aiming to preserve the country's natural forests and to generate employment in rural areas.

- *El Salvador*

The Forest Bonus Program (*Bono Forestal*) is a reference in El Salvador to promote the development of the forestry sector, principally the establishment and management of forest plantations in which the new plantations receivetechnical assistancefor up to 15years. The program benefits plantations with areas between 1 and 60 hectares. Between 2006 and 2010, the program contributed to the establishment of 6,100hectares of forest plantations for wood purposes of the total 15,000 ha of planted forests.

- *Guatemala*

The National Institute of Forests (INAB) is responsible for the main forestry-related initiative under the Ministry of Agriculture, Livestock and Food, which corresponds to 95% of the total forestry-related investment. The main program is the National Forestry Incentive Program (PINFOR), established in 1996 to boost the supply of competitive forest products, reduce deforestation, generate environmental services, and promote employment in rural areas.

From 1998to 2009, the PINFOR led to the establishment of a total area of88,503haof forest plantations out of 173,000 ha of the total planted area for wood purpose in the country. In the 2006-2011 period, the investments reached USD 72 million, increasing the planted forest area of the country.

- *Honduras*

The PRONAFOR (National Forest Program) is the main forestry-related initiative in Honduras. It aims at enhancing and increasing the forestry contribution to the economic, social and environmental development, optimizing comparative advantages and promoting the competitiveness of goods and services generated or produced by natural and planted forests. This Program is considered an instrument of the forest policy of Honduras.

- *Mexico*

The National Forestry Commission (CONAFOR), under the Ministry of Environment and Natural Resources, is the main organization with 87% of the total forestry-related annual budget of the Ministry. In 2010, the main program under CONAFOR was the Program of Payment for Environmental Services (PSA), with 21% of the total value. It seeks to contribute to the conservation of forest resources through the mechanisms of hydrological environmental services.

- *Nicaragua*

The main forestry-related governmental initiative of Nicaragua is the National Forestry Program (PFN). The program is contributing to improve the quality of life of the Nicaraguan population with emphasis on small and medium-sized farmers and foresters, indigenous and ethnical communities, supported by the environmental conservation and sustainable production, national food security and sovereignty, with a focus on land tenure.

- *Uruguay*

About 92% of the total forestry-related governmental investments in Uruguay was related to the Ministry of Livestock, Agriculture and Fisheries of Uruguay (MGAP). The Forest Investment Program, under MGAP, was established in 1987, promoting the economic incentives that spurred Uruguay to take the leadin Latin Americain increasingforest resources. The program helped to protect and recoverthenaturalforest areasandincrease forest plantation areas. Natural forests area increased byover 30%, and planted forests by 400% in less than15 years, since the beginning of the Program. The initial purpose of the program was to increase forest areas by 200,000hectares, but by 2006 it had added 800,000 hectares, surpassing by far the initial goals. This Program represented 78% of MGAP forestry-related investments carried out between 2004 and 2011, and will continue until 2016.

6.2 – ADVANTAGES AND DISADVANTAGES OF ESTABLISHING A VOLUNTARY GLOBAL FOREST FUND

The United Nations Economic and Social Council (ECOSOC), in paragraph 6 of its resolution 2007/40, decided to develop and consider, with a view to its adoption at the eighth session of the United Nations Forum on Forests (UNFF), a voluntary global financial mechanism/portfolio approach/forest financing framework for all types of forests, aiming at mobilizing significantly increased, new and additional resources from all sources.

This global financial mechanism would be based on existing and emerging innovative approaches, taking into account assessments and reviews of current financial mechanisms, to support the implementation of sustainable forest management, the achievement of the global objectives on forests and the implementation of the non-legally binding instrument on all types of forests (UNFF, 2008).

The UNFF adopted a decision on forest financing at a special session of its ninth session in October 2009. The decision launched an initiative to catalyse funding for sustainable forest management (SFM). The UNFF established an intergovernmental *Ad hoc* Expert Group (AHEG) and a facilitative process to analyse existing financing strategies for SFM and explore ways to improve access to funds, including the option of establishing a voluntary global forest fund,

taking into account, the results of the Forum's review of the performance of the facilitative process, views of Member States, and review of sustainable forest management-related financing instruments and processes (UNFF, 2010).

The forest-financing process/ discussion is not limited to two official AHEG meetings and the facilitative process work. The forest financing process within the UNFF comprises the work under the facilitative process and two meetings of the AHEG and the inter session periods, leading to the tenth session of the Forum, in 2013.

This process should provide opportunities for multidisciplinary discussions and input on forest financing, with the direct involvement of Member States, independent experts, member organizations of the Collaborative Partnership on Forests and its Advisory Group on Finance, regional processes, donors, major groups, forest-related financial mechanisms and processes, as well as the facilitative process (UNFF, 2010). In order to enhance such discussions, the main advantages and disadvantages identified behind establishing a voluntary Global Forest Fund (GFF) are:

i. Advantages
    a. Help solve the problem arising from the strong competition at the national level among priorities requiring additional funding;
    b. Provide a unified resource mobilization framework capable of meeting the SFM financing needs in the decades to come;
    c. Have a single set of procedures;
    d. Address the problem of fragmented resources;
    e. Help to attract new, additional and predictable financial resources;
    f. Help to tackle the challenges posed by climate change;
    g. Will increase access to financial and technical resources;
    h. Enormous potential payoff;
    i. Provides practical financial support for SFM and achievement of GOFs;
    j. Supports the concept of SFM as basic principle of sustainable development;
    k. Supports the implementation of NLBI;
    l. Provides financial means for implementing forest-related agreements and processes;
    m. Provides a means to promote implementation of SFM through a new, more holistic approach;
    n. Will help individual countries to achieve the GOFs;
    o. Will have positive incentives for developing countries to achieve SFM.
    p. Agreement on the operationalization of the Voluntary Global Forest Fund is a major step in the process towards a long-term financial mechanism under the UNFF.

ii. Disadvantages
    a. Could aggravate problems of fragmentation and lack of coordination;
    b. A more detailed description on some basic criteria for such a fund would be needed to elaborate the proposal for further consideration;
    c. Launching the scheme will require a major political effort upfront by all participating countries.

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